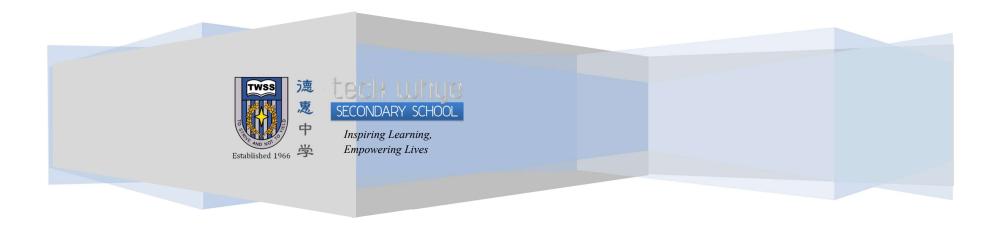
Information on Subject Option

For 2022 Secondary Two Normal Academic



Contents

S/No	Description
1	Subject Option Exercise
2	Secondary Three Subject Combinations for 2023 (will be shared at a later date)
3	Post-Secondary Education • Admission Criteria to Polytechnics and Admission to ITEs
4	Timeline for Subject Option Exercise
5	Subject Descriptions
6	Administrative Matters
7	Educational and Career Guidance (ECG) Resources

Subject Option Exercise

Offering our students a broad-based subject combination will provide them with a wide range of choices for post-secondary education.

Subjects are allocated based on the following -

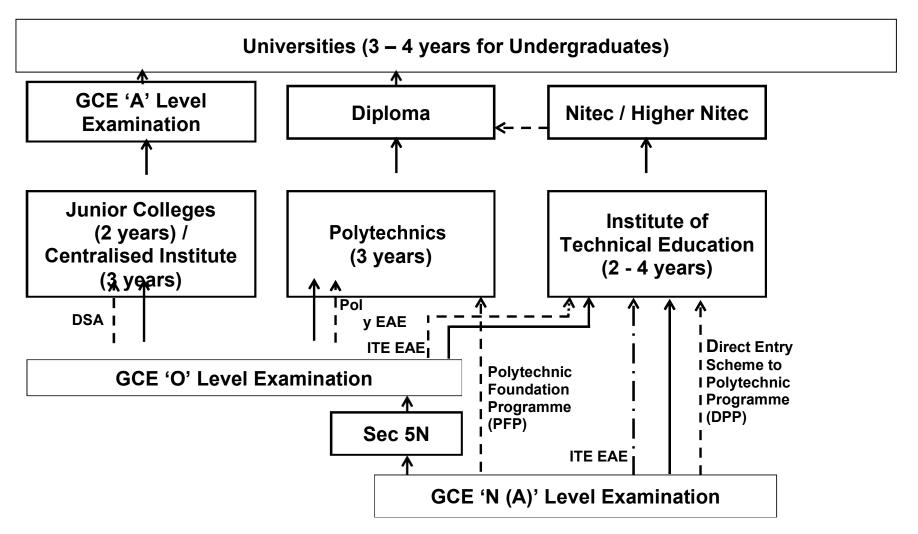
- a. Merit (Students' overall academic performance and general subject proficiencies);
- b. Choice (As indicated by students during the subject option exercise); and
- c. Resources (Availability of teachers and minimum number of students for a subject group).

Overall academic performance refers to the performance of students throughout the year. i.e., WA1, WA2 and SA

WA1 (Term 1)	WA2 (Term 2)	WA3 (Term 3)	SA (Term 4)	TOTAL
15%	15%	15%	55%	100%

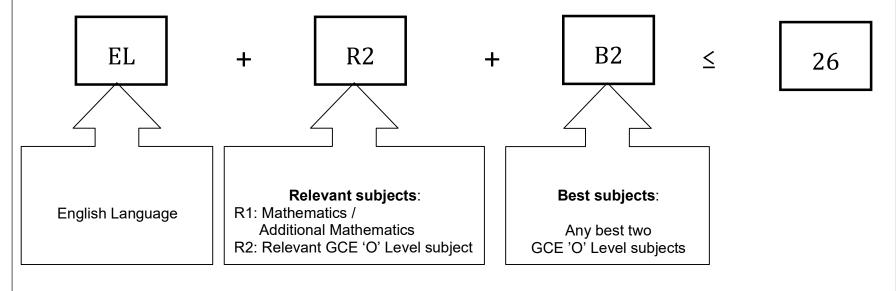
Students are advised to put in consistent effort throughout the year. In the event that students are not offered their first choice, the school will consider the subsequent choices opted by the student. Therefore, it is important that students rank their choices carefully and in consultation with their parent(s) / guardian(s).

Post-Secondary Education Landscape (NA)



Admission Criteria to Polytechnics

To be eligible for consideration to the various courses in the polytechnics, students must obtain 26 points or better for the net ELR2B2 aggregate score and meet the minimum requirements for the various courses. Different courses in different polytechnics require different aggregate scores and the scores vary from year to year.



Admission to ITEs

Different ITE courses have different cut-off points and admission is based on students' aggregate scores (based on four subjects) and availability of vacancies.

The indicative cut-off points for 2022 ITE intake are provided in the website - https://www.ite.edu.sg/docs/default-source/full-time-intake-exercises/jien/jien-2022-intake-entry-requirements.pdf?sfvrsn=29522a54 12

Timeline for Subject Option Exercise

Term	Activities
1-2	 Sec 2 Parent Engagement Session ✓ Subject Combinations Sec 2 Subject Combination Briefing 1 (for students) ✓ Education and Career Guidance Support ✓ Subject-specific Briefing** ✓ Issue of Information on Subject Option ECG CCE Lessons & Cohort Talks ✓ Understanding the Post-Secondary Education Landscape ✓ Identifying Own Strengths, Interests and Skills ✓ Exploring Career Options based on Interests and Strengths ✓ Identifying the Influencing Factors on Career Choices ✓ Choosing Career Options
3	 Sec 2 Subject Combination Trial Poll (for students) ECG CCE Lesson ✓ Class Talk by ECG Counsellor on Choosing Subject Combinations ✓ SLS Lesson on Choosing Subject Combinations (self-directed) ✓ 1-1 ECG Counselling with ECG Counsellor (sign-up basis)
4	 Sec 2 Subject Combination Briefing 2 ✓ Briefing on Subject Combinations Preference Exercise Subject Option Exercise ✓ Subject Combinations Preference Exercise ✓ Results of Subject Option and Class Allocation

^{**} These include new subjects/ electives such as Pure Sciences, Add Math, Humanities, POA, EBS, Art/DT/NFS, Mobile Robotics, etc.

	ADDITIONAL MATHEMATICS (NA) (4051)
Link to Syllabus	https://www.seab.gov.sg/docs/default-source/national-examinations/syllabus/nlevel/2022syllabus/4051_y22_sy.pdf
Description	The syllabus consolidates and extends Elementary Mathematics knowledge and understanding for use in more advanced mathematical applications. The N(A)-Level Additional Mathematics is a subset of the O-Level Additional Mathematics syllabus. The content is organised into three strands, namely, Algebra, Geometry and Trigonometry, and Calculus. Besides conceptual understanding and skill proficiency explicated in the content strand, the development of process skills, namely, reasoning, communication and connections, thinking skills and heuristics, and applications and modelling are also emphasised.
2 document	The study of Additional Mathematics prepares students adequately for A-level H2 Mathematics and H2 Further Mathematics, where a strong foundation in algebraic manipulation skills and mathematical reasoning skills are required. (Needed for admission into H2 Mathematics and H2 Further Mathematics in JC).
	It also provides a strong mathematical foundation for many courses in Polytechnics, especially engineering courses (Not a requirement for JC Non-Science course and Polytechnic course).
Outcomes	 The N(A)-Level Additional Mathematics syllabus aims to enable students who have an aptitude and interest in mathematics to: acquire mathematical concepts and skills for higher studies in mathematics and to support learning in other subjects, in particular, the sciences; develop thinking, reasoning 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.
Assessment Format	Paper 1 (Written) - 70 marks (50%) - 1 hour 45 minutes Paper 2 (Written) - 70 marks (50%) - 1 hour 45 minutes
Prerequisites	Students should have done well in Secondary 2 Mathematics and in particular, possess a good mastery of Algebra.
Contact	Mdm Aw Soo Bing, HOD Mathematics E-mail: aw_soo_bing@schools.gov.sg Tel: 6769 1386

SCIENCES (NA)		
Subject/Code	SCIENCE (CHEMISTRY, BIOLOGY) (5107)	SCIENCE (PHYSICS, CHEMISTRY) (5105)
Link to Syllabus	https://www.seab.gov.sg/docs/default-source/national- examinations/syllabus/nlevel/2023syllabus/5107_y23_sy.pdf	https://www.seab.gov.sg/docs/default-source/national-examinations/syllabus/nlevel/2023syllabus/5105_y23_sy.pdf
Description	Chemistry is study of matter at the atomic to macromolecular scale. It focus on (i) the finite life of the world's resources and hence the need for recycling and conservation (ii) economic considerations in the chemical industry (iii) the social, environmental, health and safety issues relating to the chemical industry (iv) the importance of chemicals in industry and in everyday life. Biology is the study of all life forms. It is concerned with classifying the various forms of organisms, how species come into existence, and the interactions they have with each other and with the environment.	Physics provides students with a coherent understanding of energy, matter, and their interrelationships. It focuses on investigating natural phenomena and then applying patterns, models (including mathematical ones), principles, theories and laws to explain the physical behaviour of the universe. The theories and concepts presented in this syllabus belong to a branch of physics commonly referred to as classical physics. Modern physics, developed to explain the quantum properties at the atomic and sub-atomic level, is built on knowledge of these classical theories and concepts. Chemistry is study of matter at the atomic to macromolecular scale. It focus on (i) the finite life of the world's resources and hence the need for recycling and conservation (ii) economic considerations in the chemical industry (iii) the social, environmental, health and safety issues relating to the chemical industry (iv) the importance of chemicals in industry and in everyday life.
Outcomes	The aims are: (i) provide, through well-designed studies of experimental and practical science, a worthwhile educational experience for all students, whether or not they go on to study science beyond this level and, in particular, to enable them to acquire sufficient understanding and knowledge to • become confident citizens in a technological world, able to take or develop an informed interest in matters of scientific importance • recognise the usefulness, and limitations, of scientific method and to appreciate its applicability in other disciplines and in everyday life • be suitably prepared for studies beyond 'Normal' Level which, for many students, will be in science related courses or another year of study leading to the GCE O-Level Science examination.	

SCIENCES (NA)		
Subject/Code	SCIENCE (CHEMISTRY, BIOLOGY) (5107)	SCIENCE (PHYSICS, CHEMISTRY) (5105)
	 (ii) develop abilities and skills that are relevant to the study and practice of science useful in everyday life and concern for accuracy and preci encourage efficient and safe practice encourage effective communication. 	sion.
	 (iii) develop attitudes relevant to science such as concern for accuracy and precision objectivity - integrity inquiry initiative inventiveness. 	
	and is subject to social, economic, technological, ethical a understand that the applications of science may be both be environment. Students will recognise that science transcend	practice of science include co-operative and cumulative activities, and cultural influences and limitations. Students would be able to eneficial and detrimental to the individual, the community and the ds national boundaries and that the language of science, correctly nation technology is important for communication, as an aid to intal and theoretical results.
	Paper 3 (Multiple Choice) (Chemistry) - 20 marks (20%) - 1 hour 15 minutes (with P4)	Paper 1 (Multiple Choice) (Physics) - 20 marks (20%) - 1 hour 15 minutes (with P2)
Assessment	Paper 4 (Structured) (Chemistry) - 30 marks (30%) - 1 hour 15 minutes (with P3)	Paper 2 (Structured) (Physics) - 30 marks (30%) - 1 hour 15 minutes (with P1)
Format	Paper 5 (Multiple Choice) (Biology) - 20 marks (20%) - 1 hour 15 minutes (with P6)	Paper 3 (Multiple Choice) (Chemistry) - 20 marks (20%) - 1 hour 15 minutes (with P4)

SCIENCES (NA)				
Subject/Code	Subject/Code SCIENCE (CHEMISTRY, BIOLOGY) (5107) SCIENCE (PHYSICS, CHEMISTRY) (51			
	Paper 6 (Structured) (Biology) - 30 marks (30%) 1 hour 15 minutes (with P5)	Paper 4 (Structured) (Chemistry) - 30 marks (30%) 1 hour 15 minutes (with P3)		
Prerequisites	Students should display an interest in Biology in Lower Secondary Science.	Students should display an interest in Physics in Lower Secondary Science.		
Contact	Mr Alwin Njoo, SSD & covering HOD Science E-mail: njoo_kiat_guan_alwin@schools.gov.sg Tel: 6769 1386			

	HUMANITIES (NA)		
Subject/Code	HUMANITIES (SOCIAL STUDIES. GEOGRAPHY) (2175)	HUMANITIES (SOCIAL STUDIES, HISTORY) (2176)	
Link to Syllabus	https://www.seab.gov.sg/docs/default-source/national-examinations/syllabus/nlevel/2021syllabus/2175_y21_sy.pdf	https://www.seab.gov.sq/docs/default-source/national- examinations/syllabus/nlevel/2022syllabus/2176_y22_sy.pdf	
Description	Humanities has been a compulsory subject for GCE 'N' and 'O' Level Examination from 2001. Students can choose to do either (Social Studies / Geography) or (Social Studies / History)		
	The Social Studies component aims to develop our students into well-informed, responsible citizens with a sense of national identity and a global perspective through the understanding of the experiences of other countries and issues that affect the socio-economic development, governance and future of Singapore. It aims to help students develop thinking and process skills which are essential for life-long and independent learning. The syllabus covers 3 broad societal issues: Issue 1: Exploring Citizenship and Governance Issue 2: Living in a Diverse Society Issue 3: Being Part of a Globalised World		
	The Geography component develops knowledge and understanding of the Earth's physical features and processes, human phenomena as well as the interaction between people and environments. Geography provides students with a particular set of perspectives to make sense of Singapore and the complex and dynamically changing world. Geographical concepts also help students to understand contemporary people and environmental issues.	The History component allows students to draw connections between the past and present by understanding how the nature and impact of past developments explain today's world. It aims to help students become balanced, discerning, empathetic, inquiring, knowledgeable and methodical individuals able to make well-reasoned arguments and decisions. The History component covers the Making of the Contemporary World Order, 1900s to 1991.	

	HUMANITIES (NA)		
Subject/Code	HUMANITIES (SOCIAL STUDIES. GEOGRAPHY) (2175)	HUMANITIES (SOCIAL STUDIES, HISTORY) (2176)	
	The Geography component investigates the interaction between human and the physical environment and cover the topics of:	Units covered in Elective History are as follows: The World in Crisis	
	Living with Tectonic HazardsVariable Weather and Changing ClimateGlobal Tourism	 Inquiry Question: What forces and developments changed Europe and the Asia-Pacific in the first half of the 20th Century 	
	and geographical skills in:	Bipolarity and the Cold War	
	 Topographical map reading Geographical data and techniques Geographical investigations 	Inquiry Question: How did the Cold War Impact the World Order in the Post-1945 Years?	
Outcomes	Humanities enables students to: • develop a range of critical thinking skills • critique, reason, argue, put forward different points of view and arrive at their own conclusion. • be information-literate and adept in process skills so that they will be able to acquire, interpret, manage and use information creatively and effectively • appreciate the implications of various decisions, actions and relationships on society and/or environment • respect and value diverse perspectives and cultural and historical backgrounds of people, and work towards peaceful relationships and positive outcomes for society and/or its environment • appreciate the importance of living in an interdependent community with increasing global connections • recognise the value of participating as ethical, active and informed citizens in a democratic society within a global community • experience and appreciate their ability to influence the present and the future • evaluate alternatives		

	HUMANITIES (NA)		
Subject/Code	HUMANITIES (SOCIAL STUDIES. GEOGRAPHY) (2175)	HUMANITIES (SOCIAL STUDIES, HISTORY) (2176)	
Assessment Format	Paper 1 [Social Studies] - Section A: Source based Case Study [35m]: 5 Compulsory Questions – Q1-5 - Section B: Structured Response Questions [15m]: 2 Compulsory Questions – Q6 (7m) & Q7 (8m) Duration: 1 hour 45 minutes Paper 2 [Geography] - Section A: 2 Structured Questions on Geographical Investigations [13m] choose 1 - Section B: 1 Structured Questions [12m] - Section C: 2 Structured Questions [25m] choose 1 Duration: 1 hour 40 minutes	Paper 1 [Social Studies] - Section A: Source based Case Study [35m]: 5 Compulsory Questions – Q1-5 - Section B: Structured Response Questions [15m]: 2 Compulsory Questions – Q6 (7m) & Q7 (8m) Duration: 1 hour 45 minutes Paper 3 [History] - Section A: Source Based Case Study [30m] - Section B: Structured Essay Question [20m] • 2 Questions, Choose 1 Duration: 1 hour 40 minutes	
Prerequisites	Students should have a strong competency in English Language. In addition, they should display an aptitude in Geography, as well as critical and flexible thinking. They should take an interest in societal and environmental issues, own their learning through active engagement in learning activities and through questioning, reflecting and persevering in the pursuit of learning.	Students should have a strong competency in English Language. In addition, they should display an aptitude in History, as well as critical and flexible thinking. They should take an interest in societal issues, own their learning through active engagement in learning activities. Through questioning, reflecting and persevering in the pursuit of learning, they should demonstrate the ability to organise and communicate historical knowledge and understanding through the use of appropriate historical terms and ideas appropriate to the mode of delivery, purpose and audience.	
Contact	Mrs Vena Foo, HOD Humanities E-mail: chan_gek_chu_vena@schools.gov.sg Tel: 6769 1386		

Subject/Code	PRINCIPLES OF ACCOUNTS (NA) (7086)	
Link to Syllabus	https://www.seab.gov.sg/docs/default-source/national-examinations/syllabus/nlevel/2022syllabus/7086_y22_sy.pdf	
	The POA syllabus emphasises on student's acquisition of an understanding of content through application of accounting concepts in a variety of business and personal settings. The subject is designed to provide students with a meaningful basic introduction to financial accounting and to develop an appreciation of the discipline of accounting. It is grounded in preparing, communicating and using financial information, and appreciating the need for ethical conduct. The subject places emphasis on the understanding and application of accounting	
Description	knowledge to develop lifelong skills and values that will be of value in the increasingly complex world of business. Topics Recording business' transactions Calculating business' expenses, revenues, profits, losses, assets, liabilities and capital Maintaining and recording of business' cash and stock Preparing, analysing and interpreting financial statements and information Decision-making and evaluating choices using both accounting and non-accounting information	
	The study of POA allows students to be prepared for post-secondary education choices, in particular, the accountancy and business courses. Students will also acquire knowledge and understanding of basic accounting concepts, principles and procedure in the context of the business.	
Outcomes	 POA enables students to: acquire knowledge and understanding of fundamental accounting concepts, principles and procedures in the context of business aims and activities. develop understanding of how accounting information is being used and presented. develop skills in recording, organising, summarising and analysing business transactions. develop skills of skills of presenting quantitative accounting information. develop skills of analysing, interpreting and evaluating business performance and status. develop attitudes of accuracy, orderliness and logical thought and an appreciation of professional ethics. 	

Subject/Code	PRINCIPLES OF ACCOUNTS (NA) (7086)	
Assessment Format	Paper 1 (Written) - 40 marks (40%), - 1 hour	
	Paper 2 (Written) - 60 marks (60%) - 2 hours	
Prerequisites	Students should do well and display an aptitude in English and Mathematics.	
Contact	Mr Tan Wee Liat, HOD Information & Communication Technology E-mail: tan_wee_liat@schools.gov.sg Tel: 6769 1386	

COURSEWORK SUBJECTS (NA)						
Subject/Code	ART (6125)	DESIGN AND TECHNOLOGY (7055)	NUTRITION AND FOOD SCIENCE (6073)			
Link to Syllabus	https://www.seab.gov.sg/docs/default-source/national-examinations/syllabus/nlevel/2023syllabus/6125_y23_sy.pdf	https://www.seab.gov.sg/docs/default-source/national-examinations/syllabus/nlevel/2023syllabus/7055_y23_sy.pdf	https://www.seab.gov.sg/docs/default-source/national-examinations/syllabus/nlevel/2023syllabus/6073_y23_sy.pdf			
Description	depth of study cater to a range of abilities and interests. The process of art making involving the use of a variety of media and technologies, as well as its role in the development of critical and creative thinking, continue to be maintained. Visual literacy skills such as perceiving and responding to visual images, and analysis of visual information in its many forms are further	provide opportunity to learn through design-and-make projects guided by a design process. The design process entails identifying design needs from real-world experiences, generating and developing ideas, and realising the design solution; with research carried out when necessary. Research includes testing ideas through quick mock-ups and evaluating the final design solution with the intended user. In doing so, pupils	food choices regarding a healthy diet and the scientific principles underlying food preparation, processing and safety.			
Outcomes	 Art enables students to: nurture an informed awareness and appreciation of the visual arts enhance ability to identify and solve problems creatively in visual and tactile forms; 	 D&T aims to: develop confidence, pride and tenacity through exploring real-world design opportunities for which ideas are developed develop the quality of mindfulness, empathy and sensitivity through improving aspects of their 	NFS aims to: develop student's understanding of the concepts of nutrition and meal planning develop student's understanding of the link between diet and health			

COURSEWORK SUBJECTS (NA)					
Subject/Code	ART (6125)	DESIGN AND TECHNOLOGY (7055)	NUTRITION AND FOOD SCIENCE (6073)		
	 develop competency in the use of art and design principles, materials and processes; foster self-confidence and a sense of achievement through the practice of the visual arts; cultivate an inquiring mind, a spirit of experimentation and a passion for the visual arts. 	 environment in everyday life embrace complexities, uncertainties and the inherent social dimension of the design process when exploring design opportunity vis-àvis design ideas cultivate thinking through doodling and sketching/drawing experiment and prototype ideas using appropriate materials and tools build on their innate curiosity and ability to create exercise judgements 	 develop candidates' understanding of the principles of food science lead a healthier lifestyle proactively through proper diet and nutrition. advocate sustainable food consumption by planning and making appropriate food choices. apply principles of culinary science creatively in food preparation and cooking. 		
Assessment Format	Paper 1 (Coursework) - 100 marks (60%) - over a period of 30 weeks - Includes a finished artwork and not more than five A2 sheets of preparatory studies Paper 2 (Drawing and Painting) - 100 marks (40%) - over a period of 3 weeks of preparatory • work which leads to a 3-hour final art paper	Paper 1 (Written) - 60 marks (40%) - 1 hour 30 minutes Paper 2 (Coursework) - 60 marks (60%) 20 weeks	Paper 1 (Written) - 80 marks (40%), - 1 hour 30 minutes Paper 2 (Coursework) - 60 marks (60%) - 25 hours of time allocated Report should be about 15 to 20 pages.		

COURSEWORK SUBJECTS (NA)						
Subject/Code	ART (6125)	DESIGN AND TECHNOLOGY (7055)	NUTRITION AND FOOD SCIENCE (6073)			
Prerequisites	Students should do well and have a keen interest in Art.	Students should preferably do well in Design & Technology. Students should also show keen interest in solving design problems and is able to demonstrate consistent work over a sustained period of time.	Students should preferably do well in Food & Consumer Education. • Students should also have a keen interest in nutrition & food science and is able to demonstrate consistent work over a sustained period of time.			
Contact	Mr Davis Huang huang yaonan@schools.gov.sg Tel: 6769 1386					

Administrative Matters

- 1. For more information on the various GCE 'O' Level subjects please visit the Singapore Assessment and Examination Board (SEAB) Website http://www.seab.gov.sg/
- 2. For any queries with regards the matters pertaining to Secondary Two, please contact Assistant Year Head (Lower Secondary)
 - Mrs Ada Ong (Email sheu cifang@schools.gov.sg), Ext 822
- 3. Should there be any queries regarding subject options exercise, please contact the following Key Personnel:
 - a. Mdm Azwiza Ahmad (Email azwiza_ahmad@schools.gov.sg), Ext 623
 - b. Mdm Aw Soo Bing (Email aw_soo_bing@schools.gov.sg), Ext 629
 - c. Mr Yusman Ithnin (Email yusman b ithnin@schools.gov.sg), Ext 885

Educational and Career Guidance (ECG) Resources

1. MOE Post-Secondary Site [https://www.moe.gov.sg/post-secondary]

This is the official MOE website that covers the different areas of post-secondary education. Students can also use the pathway options checker to learn more about the different pathways.

2. My Skillsfuture Portal (Sec) [https://www.myskillsfuture.gov.sg/content/student/en/secondary.html]

This one-stop portal provides various resources and profiling tools to help students discover more about themselves and different post-secondary options. Students can tap on the rich information in the portal to make informed education and career decisions.

3. 1-1 ECG Counselling Booking of Appointment Form [https://go.gov.sg/chatwithmsfung]

Students can book appointments for 1-1 ECG counselling with Ms Rosetta Fung, our ECG counsellor who will guide students to discover more about themselves and decide on suitable subject combinations or post-secondary pathways.