

Information Sheet for 2022 Secondary Three Express Subjects

S/N	Subject	Syllabus Demand (Attitude/Skills/Foundation)	Assessment Demand	Benefits (Post-Secondary Pathway/s)
1	Additional Mathematics	<p>Students who have an aptitude and interest in Mathematics to</p> <ul style="list-style-type: none"> -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. 	<p>O level Add Mathematics (4049)</p> <p>Paper 1: 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. [90 marks --- 2hrs , 50%]</p> <p>Paper 2: 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 problem in real world context. Students are required to answer ALL questions. [90 marks --- 2 hrs , 50%]</p>	<p>Entry into JC (the grade contributes to L1R5) Eligible to take H2 Math in JC</p> <p>Knowledge in Add Math will provide students the opportunity to apply for various courses in Polytechnic</p> <p>The rigour of the subject will help students better cope and do well in the O level Mathematics subject which is an essential subject requirement for entry to JC and Poly courses</p> <p>Exemption from the Add Math bridging module for a Term in Poly</p>

2	Principle of Accounts (POA)	<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 accounting language used in business e.g. assets, liabilities, capital, income, expenses, gross profit, depreciation. - 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 business, analyse and 	O' Level Principles of Accounts Syllabus (7087) <p>Paper 1: Answer three to four compulsory structured questions [40 marks, 40%, 1 hour]</p> <p>Paper 2: Answer four compulsory structured questions [60 marks, 60%, 2 hour]</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>Entry into JC (no equivalent subject in the A-Levels, but the grade contributes to L1R5).</p> <p>Entry into Polytechnic (POA lays the foundation for business courses, and the grade contributes to L1R4).</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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		interpret financial statements.		
3	Biology and Science Biology	<p>Students will be invited to the study of living organisms, namely plants and animals. This will be divided into 4 themes:</p> <ul style="list-style-type: none"> ● PRINCIPLES OF BIOLOGY ● MAINTENANCE AND REGULATION OF LIFE PROCESSES ● CONTINUITY OF LIFE ● MAN AND HIS ENVIRONMENT <p>Understanding is key in Biology and all the chapters learned are inter-related with one another.</p> <p>Comparison between Biology and Sci Biology:</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 higher; students are expected to have better response</p>	<p>Pure Biology (6093)</p> <p>Assessment consists of 3 papers.</p> <p>Paper 1 (40 marks) This paper will consist of 40 compulsory multiple choice items.</p> <p>Paper 2 (80 marks) This paper will consist of two sections. One section will consist of a variable number of compulsory structured questions. The other section will consist of free response questions. question will be presented in an either/or form and will carry 10 marks.</p> <p>Paper 3 (40 marks) This paper is a practical assessment and will comprise two to three compulsory practical questions.</p> <p>Science (Biology, Chemistry) 5078</p> <p>The assessment consists of four papers – Paper 1, Paper 3, Paper 4 and Paper 5.</p> <p>Paper 1 (40 marks) is 1 hour long and consists of 40 MCQs. There are twenty questions each on Science Biology and Science Chemistry.</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 Sciences and Life Sciences in Polytechnics, A Level Biology in College, etc.</p>

		<p>strategies , be adept in analysing unfamiliar contextual questions, be confident to manage non-routine and complex questions by identifying evidence provided.</p> <p>The end-of-course practical assessment for Biology is more demanding than Sci Bio. It has a longer duration and emphasizes analytical, evaluation and planning skills. There is a greater emphasis on the thinking behind the doing and use of real world contexts where appropriate.</p>	<p>Paper 3 (65 marks) is 1 hour 15 minutes and consists of structured questions on the Science Chemistry component.</p> <p>Paper 4 (65 marks) is 1 hour 15 minutes and consists of structured questions on the Science Biology component.</p> <p>Paper 5 (30 marks) is a practical assessment and consists of one question each for Science Biology and Science Chemistry.</p>	
5	Physics	<p>Students who enjoy learning 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.</p> <p>The O level Physics introduces the fundamental concepts of Classical Physics students will develop conceptual understanding and learn how to</p>	<p>Physics 6091</p> <p>The assessment consists of three papers – Paper 1, Paper 2 and Paper 3.</p> <p>Paper 1 (40 marks) is 1 hour long and consists of 40 MCQs.</p> <p>Paper 2 (80 marks) is 1 hour 45 minutes and consists of structured questions..</p> <p>Paper 3 (40 marks) is a practical assessment and consists of two questions.</p>	<p>Physics is a science of measurement and provides a good foundation for students to pursue STEM (science, technology engineering, mathematics) careers.</p>

		<p>make linkages across different themes.</p> <p>The syllabus is divided into 5 themes:</p> <ul style="list-style-type: none"> ● MEASUREMENT ● NEWTONIAN MECHANICS ● THERMAL PHYSICS ● WAVES ● ELECTRICITY AND MAGNETISM <p>Comparison between Physics and Sci Physics:</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>Science (Physics, Chemistry) 5076</p> <p>The assessment consists of three papers – Paper 1, Paper 2, Paper 3, and Paper 5.</p> <p>Paper 1 (40 marks) is 1 hour long and consists of 40 MCQs. There are twenty questions each on Science Physics and Science Chemistry.</p> <p>Paper 2 (65 marks) is 1 hour 15 minutes and consists of structured questions on the Science Physics component.</p> <p>Paper 3 (65 marks) is 1 hour 15 minutes and consists of structured questions on the Science Chemistry component.</p> <p>Paper 5 (30 marks) is a practical assessment and consists of one question each for Science Physics and Science Chemistry.</p>	
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		<p>The end-of-course practical assessment for Physics is more demanding than Sci Phy. It has a longer duration and emphasizes analytical, evaluation and planning skills. There is a greater emphasis on the thinking behind the doing and use of real world contexts where appropriate.</p>		
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6	Geography	<p>Students who enjoy learning about the inter-relationship between the human and physical environments around them, asking questions about issues they see around them (eg. the occurrence of natural disasters, climate change, hunger and food shortages, and the threat of infectious diseases) should consider taking the subject.</p>	<p>Geography (2236) The examination consists of two papers – Paper 1 and Paper 2, taken at separate sittings. Paper 1 is 1 hour 40 minutes totally 50 marks, and Paper 2 is 1 hour 30 minutes totally 50 marks.</p> <p>In Paper 1, students are required to answer a compulsory question on Geographical Investigations (25 marks), as well as a structured question (25 marks) (out of a choice of two structured questions). Paper 1 is based on topics of Coasts and Global Tourism.</p> <p>In Paper 2, students are required to answer a total of 2 structured questions (out of a choice of 4 structured questions). Paper 2 is based on Plate Tectonics and Weather & Climate (in Section A) and Food Resources and Health & Diseases (in Section B).</p> <p>Geography (Humanities) (Taken with Social Studies) The examination consists of 1 paper of a duration of 1 hour 40 minutes. Students are required to answer one question each on Geographical Investigations (Section A), Weather Studies and Global Tourism (Section B), and Plate Tectonics and Food Resources (Section C) totally 50 marks.</p>	<p>https://www.schoolbag.sg/story/why-study-geography-as-a-humanities-subject</p> <p>The knowledge, skills and dispositions will prepare students for diverse professions such as urban planning, environmental consultancy, tourism, finance and banking sectors. The global perspective and sensitivity to local places and cultures acquired through Geography aids them in their analysis of business decisions and interactions with international clients. Students can also combine their geographical knowledge with science in the field of environmental management and research, and data analytics (information adapted from schoolbag.sg) .</p>
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7	History	<p>Students who enjoy learning about the following should consider studying History (Humanities):</p> <ul style="list-style-type: none"> - How the world we live in came to be - how past societies functioned and - Why people might have behaved the way they did at different points in time. - Why things happened in the past, how past events shape the present, and even anticipate what might take place in the future. - How we can analyse evidence discerningly to distinguish fact from opinion - How we can construct their own interpretations of the past and substantiate them based on historical evidence. 	<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> <table border="1" data-bbox="907 467 1520 1304"> <tr> <td colspan="2" data-bbox="907 467 1520 570">The Making of the Contemporary World Order (1900s–1991)</td> </tr> <tr> <td colspan="2" data-bbox="907 570 1520 672">Paper 1: European Dominance and Challenges (1870s – 1945)</td> </tr> <tr> <td colspan="2" data-bbox="907 672 1520 753">Duration: 1 hr 40 mins</td> </tr> <tr> <td data-bbox="907 753 1417 889">Section A: Source-Based Case Study (30%) - 5 Source-Based questions</td> <td data-bbox="1417 753 1520 889">30m</td> </tr> <tr> <td data-bbox="907 889 1417 1240">Section B: Structured-Essay Questions (20%) - Answer 1 out of 2 questions - Part (a) requires candidates to explain events and/or issues [8m] - Part (b) requires candidates to evaluate and make judgement on events and/or issues [12m]</td> <td data-bbox="1417 889 1520 1240">20m</td> </tr> <tr> <td data-bbox="907 1240 1417 1304">Total marks:</td> <td data-bbox="1417 1240 1520 1304">50m</td> </tr> </table>	The Making of the Contemporary World Order (1900s–1991)		Paper 1: European Dominance and Challenges (1870s – 1945)		Duration: 1 hr 40 mins		Section A: Source-Based Case Study (30%) - 5 Source-Based questions	30m	Section B: Structured-Essay Questions (20%) - Answer 1 out of 2 questions - Part (a) requires candidates to explain events and/or issues [8m] - Part (b) requires candidates to evaluate and make judgement on events and/or issues [12m]	20m	Total marks:	50m	<p>The knowledge, skills and dispositions that History develops in students will allow them to engage in a range of professions beyond academia and education. This includes, among others, diplomacy and foreign relations, public policy, legal services, journalism, community and social services, entertainment, media and technology, as well as business and management.</p> <p>(Information adapted from https://www.schoolbag.sg/story/why-study-history-as-a-humanities-subject and SEAB website)</p>
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Total marks:	50m															

Paper 2: The Bi-Polar World Order (1945 - 1991)

Duration: 1 hr 40 mins

Section A: Source-Based Case Study (30%)

- 5 Source-Based questions

30m

Section B: Structured-Essay Questions (20%)

- Answer 1 out of 2 questions
- Part (a) requires candidates to explain events and/or issues [8m]
- Part (b) requires candidates to evaluate and make judgement on events and/or issues [12m]

20m

Total marks:

50m

8	History (Humanities)	<p>Students who enjoy learning about the following should consider studying History (Humanities):</p> <ul style="list-style-type: none"> - How the world we live in came to be - how past societies functioned and - why people might have behaved the way they did at different points in time. - Why things happened in the past, how past events shape the present, and even anticipate what might take place in the future. - How we can analyse evidence discerningly to distinguish fact from opinion - How we can construct their own interpretations of the past and substantiate them based on historical evidence. 	<p>History (Humanities) (Taken with Social Studies):</p> <p>- The examination consists of 1 paper. The duration of the paper is 1 hour 40 minutes. The assessment modes comprise source-based case study and structured-essay questions for each paper.</p> <table border="1" data-bbox="907 505 1520 1240"> <tr> <td colspan="2" data-bbox="907 505 1520 605"> The Making of the Contemporary World Order (1900s–1991) </td> </tr> <tr> <td colspan="2" data-bbox="907 605 1520 688"> Duration: 1 hr 40 mins </td> </tr> <tr> <td data-bbox="907 688 1417 824"> Section A: Source-Based Case Study (30%) - 5 Source-Based questions </td> <td data-bbox="1417 688 1520 824"> 30m </td> </tr> <tr> <td data-bbox="907 824 1417 1175"> Section B: Structured-Essay Questions (20%) - Answer 1 out of 2 questions - Part (a) requires candidates to explain events and/or issues [8m] - Part (b) requires candidates to evaluate and make judgement on events and/or issues [12m] </td> <td data-bbox="1417 824 1520 1175"> 20m </td> </tr> <tr> <td data-bbox="907 1175 1417 1240"> Total marks: </td> <td data-bbox="1417 1175 1520 1240"> 50m </td> </tr> </table>	The Making of the Contemporary World Order (1900s–1991)		Duration: 1 hr 40 mins		Section A: Source-Based Case Study (30%) - 5 Source-Based questions	30m	Section B: Structured-Essay Questions (20%) - Answer 1 out of 2 questions - Part (a) requires candidates to explain events and/or issues [8m] - Part (b) requires candidates to evaluate and make judgement on events and/or issues [12m]	20m	Total marks:	50m	<p>The knowledge, skills and dispositions that History develops in students will allow them to engage in a range of professions beyond academia and education. This includes, among others, diplomacy and foreign relations, public policy, legal services, journalism, community and social services, entertainment, media and technology, as well as business and management.</p> <p>(Information adapted from https://www.schoolbag.sg/story/why-study-history-as-a-humanities-subject and SEAB website)</p>
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9	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 responses to literary texts and others' views; and ● read and appreciate works from different parts of the world from the three literary genres. <p><u>Overview of 'O' Level Full Literature P1 and P2</u></p> <p>Paper 1: Prose & Unseen Poetry (1h 40 mins) Prose - 2 Essay Questions & 1 Passage Based Question. Choose 1 to answer. Poetry - 2 Poems. Choose 1 to answer.</p> <p>Paper 2: Drama (1h 30 mins) 2 Essay Questions. Choose 1 to answer. 1 mandatory Passage Based Question.</p>	<p>1) The study of Literature builds Global Awareness & Cross-Cultural Sensitivity → relevant skills in Hospitality and Tourism Industry</p> <p>2) The reading of Literature exercises our Imagination and nurtures Creativity → relevant skills fields of Architecture, Engineering and Medical Research</p> <p>3) The reading of Literature builds empathy → relevant skills in education, social work and health care professions like doctors and nurses</p> <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>
10	Art	<p>Students who enjoy drawing and painting. They should be curious, be willing to explore and create, and appreciate visual art. They</p>	<p>Paper 1 (coursework) 60%</p> <ul style="list-style-type: none"> - O level art coursework examination starts in Jan 2021. - 8 A2 Preparatory works which consists of drawings/paintings leading to a final design 	<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</p>

		<p>need to have good technical, observation and thinking skills.</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>which can be drawn and painted on either a bigger paper or canvas.</p> <ul style="list-style-type: none"> - Submission in July 2021. <p>Paper 2 (Drawing and painting) 40%</p> <ul style="list-style-type: none"> - O level paper 2 question paper will be issued 3 weeks in advance for you to prepare - 5 A3 Preparatory works which consists of drawings/ paintings leading to a final design which can be drawn and painted - Final design to be produced within 3 hours based on the preparatory work during the examination. 	<p>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>
11	Design and Technology	<p>This Design & Technology (D&T) syllabus is designed to engage students in 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</p>	<p>7059 DESIGN AND TECHNOLOGY GCE ORDINARY LEVEL SYLLABUS (2020)</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>	<p>The subject provides a broad-based foundation for further studies in engineering, designing and related fields.</p>

		to develop related dispositions and skills using graphical means and technology.	<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. 	
12	Electronics	<p>The syllabus focuses on the application of the knowledge of electronics components and circuit theories to design and build electronics systems that can solve daily problems.</p> <p>Students will develop testing and troubleshooting skills in the realisation of an electronic system.</p> <p>Learning experiences are designed to promote an understanding of electronics and to develop values and attitudes related to engineering.</p>	<p>6063 ELECTRONICS GCE ORDINARY LEVEL SYLLABUS</p> <p>Paper 1 (Written Paper -70%) Duration 2hrs <u>Section A (40 marks)</u> Short answer questions <u>Section B (60 marks)</u> Long questions</p> <p>Paper 2 (Coursework- 30%) Duration 32hrs An application-specific electronic project</p>	The subject provides a broad-based foundation for further studies in electronics engineering and related fields.

13	Chemistry	<p>This 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. The students would be exposed to appropriate practical work to facilitate a greater understanding of the subject.</p> <p>There are more topics in Chemistry (24 topics) than Sci Chem (21 topics). There is more breadth and depth in the 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.</p>	<p>Students need to understand</p> <ul style="list-style-type: none"> (i) the finite life of the world's resources and hence the need for recycling and conservation (ii) economic considerations in the chemical industry, such as the availability and cost of raw materials and energy (iii) the social, environmental, health and safety issues relating to the chemical industry (iv) the importance of chemicals in industry and in everyday life. <p>Chemistry (6092) GCE O'level Syllabus</p> <p>Theory Papers</p> <p>Paper 1 (1 h, 40 marks) (30%)</p> <p>Paper 2 (1 h 45 min, 80 marks) (50%)</p> <p>Practical Assessment</p> <p>Paper 3 (1h 50 min, 40 marks) (20%)</p> <p>Science (Physics, Chemistry) 5076 or Science (Chemistry, Biology) 5078</p> <p>The assessment consists of three papers – Paper1, 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>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>
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Information Sheet for 2022 Secondary Normal Academic Subjects

S/N	Subject	Syllabus Demand (attitude/skills/foundation)	Assessment Demand	Benefits (Post-Secondary Pathway/s)
1	Additional Mathematics	<p>Students who have an aptitude and interest in Mathematics to</p> <ul style="list-style-type: none"> -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. 	<p>N level Add Mathematics (4044)</p> <p>Paper 1: 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. [70 marks --- 1hr 45 mins , 50%]</p> <p>Paper 2: About 9 to 10 questions of varying marks and lengths testing on the applications of standard techniques, solving problems in variety of contexts ,reasoning and higher order thinking skills and problem in real world context. Students are required to answer ALL questions. [70 marks --- 1 hr 45 mins , 50%]</p>	<p>The subject contributes to the overall computational for entry to the Polytechnic Foundation Programme, Direct Polytechnic Programme or progression to Sec 5 course.</p> <p>The rigour of the subject will help the students better cope with the demand of the NA Mathematics subject.</p>

2	Principle of Accounts (POA)	<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 and present financial statements.</p> <p>Students will learn</p> <ul style="list-style-type: none"> - the accounting language used in business e.g. assets, liabilities, capital, income, expenses, gross profit, depreciation. - 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, and prepare financial 	'N' Level Principles of Accounts Syllabus (7086) <p>Paper 1: Answer three to four compulsory structured questions [40 marks, 40%, 1 hour]</p> <p>Paper 2: Answer four compulsory structured questions [60 marks, 60%, 2 hours]</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 (5 marks) will be part of one of the three remaining questions 	<p>Entry into Polytechnic (POA lays the foundation for business courses, and the grade contributes to L1R4).</p> <p>Degree level courses in Accountancy (while POA is not an entry requirement, it 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
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		statements of a business.		<ul style="list-style-type: none"> - 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.
3	Science Biology	<p>Students will be invited to the study of living organisms, namely plants and animals. This will be divided into 3 themes: Involving living organisms, namely plants and animals.</p> <p>These are as follows:</p> <ol style="list-style-type: none"> 1. PRINCIPLES OF BIOLOGY 2. MAINTENANCE AND REGULATION OF LIFE PROCESSES 	<p>Science (Chemistry, Biology) 5106</p> <p>The assessment consists of four papers – Paper 3, Paper 4, Paper 5 and Paper 6.</p> <p>Paper 5 (20 marks) consists of 20 MCQs. There are twenty questions each on Biology component.</p> <p>Paper 6 (30 marks) and consists of structured questions on the Biology component.</p> <p>Paper 5 and 6 are taken at the same sitting. A duration of 1h 15 min is provided.</p>	<p>NA Biology is needed if a student wants to do Express Biology at 5N. It is also an advantage for those who are interested in taking up Biology-related Sciences in tertiary institutions, such as Biomedical Sciences and Life Sciences in Polytechnics, A Level Biology in College, etc.</p>

		<p>3. CONTINUITY OF LIFE</p> <p>A greater emphasis lies on the understanding and application of scientific concepts and principles and less on factual materials.</p>		
4	Science (Physics)	<p>Students who enjoy learning 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. Physics thus develops one's ability to consider about structure and matter.</p> <p>A greater emphasis lies on the understanding and application of scientific concepts and principles and less on factual materials.</p>	<p>Science (Physics, Chemistry) 5105</p> <p>The assessment consists of four papers – Paper 1, Paper 2, Paper 3 and Paper 4</p> <p>Paper 1 (20 marks) consists of 20 MCQs. There are twenty questions each on Physics component.</p> <p>Paper 2 (30 marks) and consists of structured questions on the Physics component.</p> <p>Paper 1 and 2 are taken at the same sitting. A duration of 1h 15 min is provided.</p>	<p>Physics is a science of measurement and provides a good foundation for students to pursue STEM (science, technology engineering, mathematics) careers.</p>
5	Science (Chemistry)	<p>The N Level Science (Chemistry) Syllabus is designed to place less emphasis on factual materials</p>	<p>Students need to understand</p> <p>(i) the finite life of the world's resources and hence the need for recycling and conservation</p>	<p>The subject is broad-based and is a key requirement for admission into post-</p>

		<p>and greater emphasis on the understanding and application of scientific concepts and principles. This approach has been adapted in recognition of the need for students to develop skills that will be of long-term value in an increasing technological world. The subject will feature a wide variety of learning experiences designed to promote acquisition of expertise and understanding of the subject.</p>	<p>(ii) economic considerations in the chemical industry, such as the availability and cost of raw materials and energy (iii) the social, environmental, health and safety issues relating to the chemical industry (iv) the importance of chemicals in industry and in everyday life. (iv) the importance of Chemistry in everyday life.</p> <p>Science (Physics, Chemistry) 5105 or Science (Chemistry, Biology) 5107 The assessment consists of two papers – Paper2 and Paper 4. Paper 3 (20 marks) consists of 20 MCQs. There are twenty questions each on the Chemistry component. Paper 4 (30 marks) and consists of structured questions on the Chemistry component. Paper 3 and 4 are taken at the same sitting. A duration of 1h 15 min is provided.</p>	<p>secondary biomedical science and STEM related courses. The chemistry knowledge serves as a foundation for science related courses.</p>
6	Social Studies, History (Humanities)	<p>Students who enjoy learning about the following should consider studying this subject):</p> <ul style="list-style-type: none"> - How the world we live in came to be - how past societies functioned and why people might have behaved the way they did at different points in time. 	<p>History (Humanities):</p> <ul style="list-style-type: none"> - The examination consists of 1 paper. The duration of the paper is 1 hour 40 minutes. The assessment modes comprise source-based case study and structured-essay questions for each paper. 	<p>The knowledge, skills and dispositions that History develops in students will allow them to engage in a range of professions beyond academia and education. This includes, among others, diplomacy and foreign relations, public policy, legal services,</p>

		<ul style="list-style-type: none"> - Why things happened in the past, how past events shape the present, and even anticipate what might take place in the future. - How we can analyse evidence discerningly to distinguish fact from opinion - How we can construct their own interpretations of the past and substantiate them based on historical evidence. 	<table border="1"> <tr> <td colspan="2">The Making of the Contemporary World Order (1900s–1991)</td> </tr> <tr> <td colspan="2">Duration: 1 hr 40 mins</td> </tr> <tr> <td>Section A: Source-Based Case Study (30%) - 5 Source-Based questions</td> <td>30m</td> </tr> <tr> <td>Section B: Structured-Essay Questions (20%) - Answer 1 out of 2 questions - Part (a) requires candidates to describe events and/or issues [8m] - Part (b) requires candidates to explain events and/or issues [12m]</td> <td>20m</td> </tr> <tr> <td>Total marks:</td> <td>50m</td> </tr> </table>	The Making of the Contemporary World Order (1900s–1991)		Duration: 1 hr 40 mins		Section A: Source-Based Case Study (30%) - 5 Source-Based questions	30m	Section B: Structured-Essay Questions (20%) - Answer 1 out of 2 questions - Part (a) requires candidates to describe events and/or issues [8m] - Part (b) requires candidates to explain events and/or issues [12m]	20m	Total marks:	50m	<p>journalism, community and social services, entertainment, media and technology, as well as business and management.</p> <p>(Information adapted from https://www.schoolbag.sg/story/why-study-history-as-a-humanities-subject and SEAB website)</p>
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Total marks:	50m													
7	Social Studies, Geography	<p>Students who enjoy learning about the inter-relationship between the human and physical environments around them, asking questions about issues they see around them (eg. the occurrence of natural disasters, climate change, hunger and food shortages, and</p>	<p>Geography (Humanities) (Taken with Social Studies) The examination consists of 1 paper of a duration of 1 hour 40 minutes. Students are required to answer one question each on Geographical Investigations (Section A), Weather Studies and Global Tourism (Section B), and Plate Tectonics and Food Resources (Section C) totally 50 marks.</p>	<p>https://www.schoolbag.sg/story/why-study-geography-as-a-humanities-subject</p> <p>The knowledge, skills and dispositions will prepare students for diverse professions such as urban</p>										

		<p>the threat of infectious diseases) should consider taking the subject.</p>	<table border="1"> <tr> <td colspan="2" data-bbox="995 250 1621 337">Duration: 1 hour 40 minutes</td> </tr> <tr> <td data-bbox="995 337 1234 477">Section A (13m)</td> <td data-bbox="1234 337 1621 477">Answer 1 question from a choice of 2 questions on Geographical Investigations</td> </tr> <tr> <td data-bbox="995 477 1234 646">Section B (12m)</td> <td data-bbox="1234 477 1621 646">Answer 1 question from a choice of 2 questions on Weather Studies and Global Tourism</td> </tr> <tr> <td data-bbox="995 646 1234 786">Section C (25m)</td> <td data-bbox="1234 646 1621 786">Answer 1 question from a choice of 2 questions on Plate Tectonics and Food Resources</td> </tr> </table>	Duration: 1 hour 40 minutes		Section A (13m)	Answer 1 question from a choice of 2 questions on Geographical Investigations	Section B (12m)	Answer 1 question from a choice of 2 questions on Weather Studies and Global Tourism	Section C (25m)	Answer 1 question from a choice of 2 questions on Plate Tectonics and Food Resources	<p>planning, environmental consultancy, tourism, finance and banking sectors. The global perspective and sensitivity to local places and cultures acquired through Geography aids them in their analysis of business decisions and interactions with international clients. Students can also combine their geographical knowledge with science in the field of environmental management and research, and data analytics (information adapted from schoolbag.sg) .</p>
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Section C (25m)	Answer 1 question from a choice of 2 questions on Plate Tectonics and Food Resources											
8	Art	<p>Students who enjoy drawing and painting. They should be curious, be willing to explore and create, and appreciate visual art. They need to have good technical, observation and thinking skills.</p> <p>Being able to have good time and self-management are good</p>	<p>Paper 1 (coursework) 60%</p> <ul style="list-style-type: none"> - N level art coursework examination starts in Jan 2021. - 5 A2 Preparatory works which consists of drawings/paintings leading to a final design which can be drawn and painted on either a bigger paper or canvas. - Submission in July 2021. <p>Paper 2 (Drawing and painting) 40%</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>								

		attributes to have when taking Art in Upper Secondary.	<ul style="list-style-type: none"> - N level paper 2 question paper will be issued 3 weeks in advance for you to prepare - 5 A3 Preparatory works which consists of drawings/ paintings leading to a final design which can be drawn and painted - Final design to be produced within 3 hours based on the preparatory work during the examination. 	Fashion design and visual communications are also available in ITE.
9	Design and Technology	<p>This Design & Technology (D&T) syllabus is designed to engage students in 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>7055 DESIGN AND TECHNOLOGY GCE NORMAL (ACADEMIC) LEVEL SYLLABUS (2020)</p> <p>Paper 1 Written Examination - 60 marks [40%] Duration: 1 hour 30 minutes 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 and Question 3 require knowledge application of Section 2 Technology, specifically mechanisms and electronics. <p>Paper 2 Design Project - 60 marks [60%] Duration: 20 weeks</p> <ul style="list-style-type: none"> ● The Design Project is an individual coursework-based examination. The examination will be conducted over 20 weeks from the question paper release, excluding school holidays. 	The subject provides a broad-based foundation for further studies in engineering, designing and related fields.

			<ul style="list-style-type: none"> • 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. 	
10	Food & Nutrition	<p>To develop students understanding of the concepts of nutrition and meal planning</p> <p>To develop students' understanding of the link between diet and health.</p> <p>To introduce the principles of food science.</p> <p>To equip students with the knowledge and skills to make informed decisions concerning food and nutrition</p>	<p>6072 FOOD AND NUTRITION GCE NORMAL (ACADEMIC) LEVEL SYLLABUS (2021) Paper 1 (1 hour 30 minutes) – Written Paper</p> <p>This will test the candidates' knowledge of theory and practice in response to the assessment objectives.</p> <p>Section A: consisting of short answer type questions (20 marks) Section B: consisting of data-response questions (28 marks) Section C: consisting of open-ended type questions (32 marks)</p> <p>Paper 2 – Coursework Candidates will be given an assignment at the beginning of the examination year which must be completed for assessment by July of the examination year. The assignment is a study which will require the candidates to apply their knowledge and understanding in relation to the subject content.</p>	The subject provides a broad-based foundation for further studies in nutrition science, research and food product development, and food safety and quality management.

			<p>A total of 10–12 hours will be assigned during curriculum time to facilitate the completion of the assignment. Assessment will focus on the analysis of the given assignment; the ability to select and identify relevant information related to the assignment; the planning and execution of the task; and the ability to review the processes pertaining to the execution of the task.</p>	
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Information Sheet for 2022 Secondary Three Normal Technical Elective Subjects

S/N	Subjects	Syllabus Demand (attitude/skills/foundation)	Assessment Demand	Benefits (Post-Secondary Pathway/s)
1	Elements of Business Skills	<p>Provides students with opportunities to develop generic employability skills, values and attitudes and foundational knowledge for work in the services sector, namely in the travel and tourism, hospitality and retail industries.</p> <p>Provides an introduction to business through an understanding of business activities, focusing on basic marketing and customer relations. These are learnt in the context of businesses in the travel and tourism, hospitality and retail industries in Singapore</p>	<p>7066 ELEMENTS OF BUSINESS SKILLS GCE NORMAL (TECHNICAL) LEVEL SYLLABUS</p> <p>Paper 1 (Written Paper - 60%) Duration 1hr 30mins 4 to 5 short-response and structured questions (i) with helping words; (ii) requiring short answers, not necessarily in complete sentences.</p> <p>Paper 2 (Coursework - 40%) Duration 20hrs</p> <p>Candidates to conduct research on a business in one of the three service industries, namely travel and tourism, hospitality and retail industries, in the Singapore context and make recommendations on how the business can improve its marketing mix or customer service.</p>	<p>Provides students with the foundation for further studies related to Business, Hospitality and Services Sectors in ITE.</p>
2	Music	<p>Students who would like to take this subject should:</p> <ol style="list-style-type: none"> 1. have a passion for music 	<p>There will be a new Syllabus for NT Music in 2020. Information on this syllabus not available currently.</p>	<p>Music related courses in ITE, Polytechnics & Universities</p>

		<ol style="list-style-type: none">2. have strong listening skills3. be able to play a musical instrument (eg. Keyboard/ Guitar/ drums /Vocals & others) . Students who can't play a musical instrument will have to attend an audition & interview to assess student's aptitude for the subject.4. Be ready to set aside time outside curriculum time to practise on their musical instrument to prepare for the practical component of the subject.		
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If you want to find more information, please access the link here:

<https://www.moe.gov.sg/education/syllabuses>