

2026 GRADUATION

UP AND ON
CHARACTER HOLISTIC THINKER

PROFOUND

CHARACTER
RESILIENCE
COMPASSION
HUMILITY

SKILLED COMMUNICATOR
COMMUNITY BUILDER
SKILLED
COMMUNITY
HUMILITY

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OUR MISSION

Making Lives and Waking Hearts to serve the coming days
Family-Society-Eternity

OUR VISION

Home of Servant Leaders who bring life to the Nations

QUALITIES OF A SAINT

Exemplary Character
Holistic Thinker
Skilled Communicator
Community Builders

MOTTO

UP AND ON

COLLEGE VALUES

Saints are principled servant-leaders, upholding the WISE and TRUE values that define who we are and how we act when we stand together as a village.

Wonder A Saint is curious about the world. He wants to learn. A Saint asks questions.	Thanksgiving A Saint is not a self-made man. He acknowledges that others constantly give effort and time for his benefit. He uses words and deeds to express gratitude.
Integrity A Saint does right wherever he is, whomever he is with and whatever he is doing. He does right when no one is watching.	Resilience A Saint does not give up even when life is tough. A Saint does not quit. A Saint overcomes evil with good.
Self-discipline A Saint wants to be known for his self-control. He perseveres because he wants to finish well.	Unity A Saint respects others especially those whom God has made differently from him. A Saint is humble.
Excellence A Saint relentlessly strives to exceed personal best, celebrating high endeavour as its own reward.	Empathy A Saint puts himself in the other person's shoes. A Saint speaks up and acts for those who are down.

OUR BELIEFS

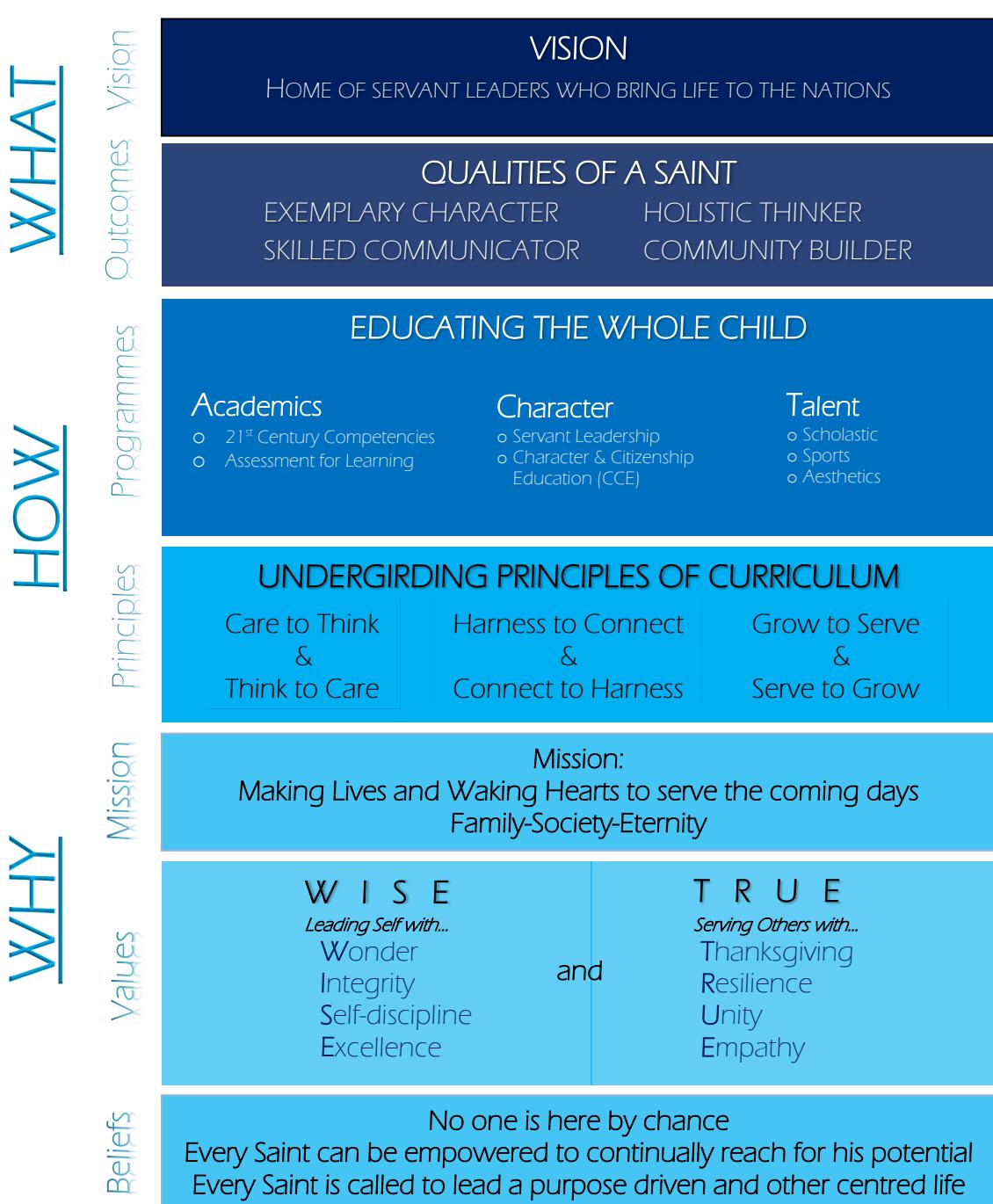
No one is here by chance.

Every Saint can be empowered to continually reach for their potential.
Every Saint is called to lead a purpose-driven and other-centered life.

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St Andrew's Junior College Educational Framework



In St Andrew's Junior College (SAJC), we believe in providing a holistic education that aims to nurture exemplary character and the talents of Saints so that they can contribute to nation-building and become powerful agents in creating a better future for all.

The SAJC Educational Framework is designed with key processes and institutional programmes aimed at the development of the whole child into the 21st century servant leaders who bring life to the nations. It takes cognizance of research into 21st century competencies and skills as well as the characteristics of servant leadership necessary for developing Saints who will be a blessing to their community.

The essence of the SAJC Educational Framework is distilled with three stem questions:

Why do we drive our Teaching and Learning?

How do we drive our Teaching and Learning?

What are the outcomes of our Teaching and Learning?

WHY do we drive our Teaching and Learning?

At the heart of the SAJC Educational Framework are the St Andrew's Village (SAV) values and the core beliefs held by the college that serve as the *raison d'être* of our teaching and learning. Summed up by the acronyms WISE and TRUE, these deep-seated values propel Saints to lead self and to serve others. Correspondingly, the core beliefs highlight the conviction of our staff regarding the inherent value and potential of the students and their role in the world. Together, these values and beliefs support our mission of "*Making Lives and Waking Hearts to serve the coming days -- Family-Society-Eternity*" where Saints are to leave their indelible mark of contributions to their families, society and the world.

HOW do we drive our Teaching and Learning?

Three undergirding principles serve as the bedrock of our curriculum design:

Care to Think & Think to Care – where students unite their hearts and minds to develop their full potential;

Harness to Connect & Connect to Harness – where students make connections with ideas and concepts and forge meaningful relationships with people around them;
Grow to Serve & Serve to Grow – where students become self-directed learners so that they can use their talents equipped with skills to serve others.

Together, these three principles guide the design of our curriculum where the whole child is educated. Each Saint's full potential is holistically developed with the pursuit of the *Academics*, the nurturing of their *Character* and the growth of their unique *Talents*.

WHAT are the outcomes of our Teaching and Learning?

Throughout their learning journey in SAJC, be it in their curriculum or co-curriculum activities, Saints will be nurtured to demonstrate the four Qualities of Saints (QoS): *Exemplary Character, Holistic Thinker, Skilled Communicator* and *Community Builder* as they immerse themselves experientially in our holistic curriculum.

As they graduate from SAJC, Saints will continue to embody these four qualities that will make them Saints for life where they will be servant leaders wherever they go, ready to serve the community, the nation and the world – realising our college's vision to be the **Home of Servant Leaders who bring life to the Nations**.

The Qualities of a Saint

• *Exemplary Character*

Servant Leadership differs from most other leadership models as it focuses on serving others before all else. Character development is the bedrock upon which all the other qualities are built upon.

In SAJC, character education comprises Social Emotional Learning (self-awareness, self-management, social awareness, relationship management and responsible decision making) and the internalisation of the College values, TRUE (Thanksgiving, Resilience, Unity and Empathy) and WISE (Wonder, Integrity, Self-Discipline and Excellence) in the lives of the Saints. These values are inculcated through Servant Leadership Education and Development (SLEAD) lessons, Scripture Readings, Chapel, and Co-curricular Activities and Programmes.

However, the most powerful mode of learning for being an exemplary character is through role-modelling and seizing teachable moments in our daily interactions.

• *Holistic Thinker*

"The aim of education should be to teach us rather how to think, than what to think - - rather to improve our minds, so as to enable us to think for ourselves, than to load the memory with the thoughts of other men." - John Dewey

It is widely agreed by educators and philosophers that the paramount purpose of education is to develop thinking individuals with a heart who can make good decisions in their lives and work.

The "Holistic Thinker" is defined as one who makes good judgements by considering the big picture, innovates and provides practical solutions, envisions the future and is prepared flexibly for it. The 4 dimensions in Holistic Thinking advocated in SAJC are: Critical Thinking, Creative Thinking, Caring Thinking and Adaptive Thinking.

All lessons and activities in SAJC have clear objectives which include the thinking skills to be taught or reinforced.

• *Skilled Communicator*

"A word fitly spoken is like apples of gold in pictures of silver." - Proverbs 25:11

Effective and skilful communication is widely regarded as being one of the most important leadership skills and a core ingredient for personal and work success. Knowing the right thing to say and how to say it determines our leadership potential and ability to achieve positive outcomes.

To communicate effectively, we must learn how to deploy our words, tone of voice, emotions, and body language to connect with others. It is also the glue that

holds our relationships together. Effective communication includes speaking, writing, and listening with genuineness, respect, and clarity. It involves the use of different modes of communication such as drama and art, as well as information technology to enhance the quality of communication.

In SAJC, we strongly believe in honing the communication skills of our staff and students in the instructional and co-curricular programmes. More than polishing the communication techniques through speech training and practice, we are mindful that the way we communicate reveals who we are as Saints. We aspire that every member of the St Andrew's community be gracious in speech and seeks to edify one another in the challenges we face and new heights we scale together.

- ***Community Builder***

"Education is a social process. Education is growth. Education is, not a preparation for life; education is life itself." -John Dewey

Community building is defined as an ongoing process where members of a community share skills, talents, knowledge, and experiences that strengthen or develop themselves and the community they belong to. A community builder actively takes actions aimed at solving problems, enriching lives, and strengthening relationships in their community.

Nurturing Saints to be community builders empowers them to become responsible adults who will continue to contribute to their communities, workplaces, and the nation in the future. They will become Saints who embrace a life-long passion for serving others. As future leaders of the country, Saints must desire to inspire change for the better and contribute to society.

To be an effective community builder, every Saint needs to have genuine interest in and sincere concern for people. They also acquire a deep understanding of cultural and global literacies to reach out and engage both local and international friends.

In SAJC, we believe that 'No one is here by chance'. Everyone therefore has a unique role to play in the College and in touching one another's lives. To create a positive culture and a conducive environment for learning and relationship building, every member of the SAJC community is responsible for creating a caring and nurturing environment for learning and working. Everyone participates in service learning and community involvement programmes locally and/or overseas. Saints are also encouraged to initiate their own community projects and volunteer with our partner organisations. In addition, international exchange programmes are also organised for Saints to develop global and cultural literacy.

Academics

- ***Curriculum***

Besides developing the essential knowledge, skills and behaviours required for our Saints to continue to post-JC studies, the College's formal and informal curriculum aim to develop the 4 Qualities of a Saint in our students. The following key teaching and learning domains own and drive programmes to develop these 4 Qualities:

Qualities of the Saints	Teaching and Learning Domains	
Exemplary Character	<ul style="list-style-type: none"> • SLEAD Programmes • Citizenship Education Programmes • Chapel & Morning Reflection 	<ul style="list-style-type: none"> • Co-curricular Activities and Programmes • Student Leadership • Student Well-being • Discipline
Holistic Thinker	<ul style="list-style-type: none"> • Co-curricular Activities and Programmes • Humanities • English Language • Information Technology • Mathematics • Mother Tongue Languages 	<ul style="list-style-type: none"> • SLEAD Education Programmes • National Education Programmes • Project Work • Sciences • Student Leadership
Skilled Communicator	<ul style="list-style-type: none"> • Art • Co-curricular Activities and Programmes • Values-in-Action Programmes • English Language 	<ul style="list-style-type: none"> • Humanities • Mother Tongue Languages • Information Technology • Project Work • Sciences • Service Learning • Student Leadership
Community Builder	<ul style="list-style-type: none"> • Physical Education • Co-curricular Activities and Programmes • Values-in-Action Programmes • SLEAD Programmes 	<ul style="list-style-type: none"> • Citizenship Education Programmes • Project Work • Service Learning • Student Leadership • Student-Initiated Projects

- ***Pedagogy***

5 'I's Framework

The action plans of all departments are designed using the 5'I's framework. The framework emphasises the **Importance** of academic excellence, identifies **Issues** involved and strategies to be used, leverages on significant others, peers and tutors to **Influence** students, uses different forms of motivation, reward and recognition to **Ignite** students' passion to learn and identifies **Indicators** of success.

Research-informed Classroom practices

The College is a Professional Learning Community, with all teachers in at least one Professional Learning Team involved in exploring the effectiveness of new pedagogies. Lesson observations by department leaders provide useful feedback to subject tutors on their teaching and learning processes. Analysis of feedback from

students through subject-based surveys and student Focus Group Discussions are used to review the teaching and learning processes, and to ensure that ‘what’s taught’ is learnt well.

Teachers keep abreast of current effective practices and share their knowledge with one another during professional development time and professional sharing days and retreats. Beyond the College, the professional sharing and learning continues between the JC₁s and in conferences.

Differentiated learning

The College caters to the different abilities of pupils via differentiated learning programmes. Departments innovate and employ various methods to deliver their Instructional Programmes. Learning opportunities beyond the classrooms, such as end-of-year work attachment and learning journeys are also provided for students. Outstanding students are selected for special educational experiences offered in Talent Development Programmes (TDP).

Blended Learning

In accordance with the Ministry of Education's (MOE) initiative to incorporate Blended Learning (BL) as a significant component of the educational experience for both Secondary School and JC/MI students, the aim is to foster self-directed and independent learners while nurturing passionate and intrinsically motivated individuals. SAJC has adopted BL for both JC₁ and JC₂ Saints, leveraging on online lectures and Home-Based Learning days as part of this approach to complement face-to-face lessons.

1. Online lectures

Online lectures empower Saints with the flexibility to learn at their preferred times and adjust their pace, allowing them to regulate and direct their own learning. Saints are required to watch weekly online lectures during weekday afternoons, and it is recommended that they adhere to the College's provided online lecture schedule to effectively manage their learning progress.

2. Home-Based Learning (HBL) Days

The key feature of HBL day in SAJC is the conscious dedication of time and space i.e., 2 hr for a meaningful **Learning Experience (LE)**. This dedicated time also allows Saints to meaningfully engage in a learning experience that evoke their wonder, interest and passion in the subject area.

Furthermore, **Student-Initiated Learning (SIL)** is time set aside for Saints to explore their personal interests which also provides Saints with the opportunity to develop themselves as independent, passionate and lifelong learners.

Saints can discover the benefits of their Blended Learning (BL) experiences at SAJC by adhering to the following three norms:

- (1) **Planning Ahead:** To evolve into a self-directed learner, Saints should learn how to effectively manage their time and proactively plan to maximize productivity.
- (2) **Taking Ownership:** BL offers a unique opportunity for independent learning, a skill that will serve Saints throughout their lives. It is crucial to begin cultivating these habits early and reflect on one's self-management on Home Based Learning (HBL) days.
- (3) **Building Trust:** BL has been intentionally designed to empower learners. Demonstrating respect for commitments and meeting deadlines for all HBL activities not only honours the trust placed in Saints by their teachers but also showcases their capacity to handle increased autonomy.

The schedule for HBL and online lectures would be provided for every Saint.

● *Assessment*

Assessment for Learning (AfL)

The College uses formative assessment such as written assignments, class tests, practical tests, oral examinations and presentations, and timed trials to monitor students' performance. Teachers use the information and results gleaned from these assessments to review and design appropriate learning strategies to improve student learning.

To assess the effectiveness of student learning on a termly basis, the College uses Weighted Assessments, Final Examination and Preliminary Examination. These assessment modes not only enable teachers to assess the learning of the students at key junctures in the academic calendar but also provide information for decision-making regarding assignment to special programmes and eligibility for promotion or higher education. Teachers also employ other modes of assessment when appropriate, such as project presentations, take-home assignments, and bite-sized in-class tests.

With all the distractions that students face during their difficult teenage years, home support is crucial in determining students' success. Parents are therefore advised on their child's academic progress and other aspects of their child's development. This partnership with parents is key in enabling the students to perform at their peak in the GCE A-Level Examination.

Talent Development Programme

The Talent Development Programme (TDP) serves to stretch our Saints by honing their competencies in information and communication skills, critical and inventive thinking, civic literacy, global awareness, and cross-cultural skills. This is done through the provision of opportunities to develop and grow them in the domains of Scholastic Development, Servant Leadership Development and Expanding Perspectives.

Under Scholastic Development, Saints in the TDP can expect to learn knowledge and skills beyond the GCE A-level curriculum. To deepen and broaden the content taught in classrooms, TDP students in the Arts and Science stream can gain experiences offered in the Humanities Scholars Programme and Science Scholars Programme respectively.

Examples of opportunities offered	
<i>Humanities Scholars Programme</i>	<i>Science Scholars Programme</i>
<ul style="list-style-type: none">• Humanities Seminar Series• EU @ Your School• Academic Mentoring	<ul style="list-style-type: none">• External science research programmes (e.g., Nanyang Research Programme, Science Research Programme, SUTD Research Mentorship Programme)• MOE Scientist in School Programme• Learning journey to research institutes

Saints in the TDP are also equipped with skills and experiences to take on challenges confidently, as they mature to be Servant Leaders with the ability to leverage multiple perspectives. With the TDP experience, our Saints are better poised to strive for prestigious scholarships in both the public and private sectors.

*Come and join in the exciting learning adventures
at St Andrew's Junior College!*

Course Information

The GCE A-Level requires students to take General Paper (**GP**), Project Work (**PW**) and Mother Tongue Language (**MTL**) at H1 level. Students are also required to offer 3H2 and 1H1 content-based subjects, at least one of which is a subject from a contrasting discipline. Alternatively, students who have met SAJC's requirements can also choose to study 4 H2 subjects, of which at least 1 must be from a contrasting discipline.

To be exempted from MTL, students are required to obtain **at least a D7** for Higher MT subject at GCE O-Level Examination. Students who have taken ONLY Mother Tongue B Syllabus (MTB) at GCE O-Level Examination will continue with MTB at GCE A-Level.

The table below shows the **3H2 and 1H1 Subject Combinations** offered in SAJC for 2026. These combinations will only be offered if there is sufficient demand.

In choosing your subject combination, it is critical that you consider the course you would like to pursue in university.

3H2 Subject Combinations

- Arts Course

Subject Codes	H2	H2	H2	H1
3A1	Economics	Geography	History	A subject from Math or the Sciences: Math, Biology, Chemistry, Physics
3A2	Economics	Geography	Literature	
3A3	Economics	History	Literature	
2A1	Economics	Geography	Math	A different subject from the Humanities: Geography, History, Literature OR A subject from the Sciences: Biology, Chemistry, Physics
2A2	Economics	History	Math	
2A3	Economics	Literature	Math	
2A4	Geography	Literature	Math	
2A5	History	Literature	Math	

Note:

At most ONE of the following subjects may be used to replace one H2 subject in the above combinations provided students fulfil the contrasting subject requirement:

- H2 Art
- H2 Chinese Language & Literature (*for 3A1, 2A1 and 2A2 only*)
- H2 Malay Language & Literature (*for 3A1, 2A1 and 2A2 only*)
- H2 Tamil Language & Literature (*for 3A1, 2A1 and 2A2 only*)

- Science Course

Subject Codes	H2	H2	H2	H1
3S1	Biology	Chemistry	Math	A subject from the Humanities: Economics, Geography, History, Literature
3S2	Physics	Chemistry	Math	
3S3	Physics	Further Math	Math	
3S4	Chemistry	Further Math	Math	
2S1	Biology	Economics	Math	A different subject from the Humanities: Economics, Geography, History, Literature OR A different subject from Math or the Sciences:
2S2	Chemistry	Economics	Math	
2S3	Physics	Economics	Math	
2S4	Biology	Geography	Math	
2S5	Chemistry	Geography	Math	Math, Biology, Chemistry, Physics
2S6	Physics	Geography	Math	
2S7	Biology	Chemistry	Economics	
2S8	Physics	Chemistry	Economics	

Note:

- At most ONE of the following subjects may be used to replace one H2 subject in the above combinations (*with exception of 3S3 and 3S4*) provided students fulfil the contrasting subject requirement:
 - H2 Art
 - H2 Chinese Language & Literature
 - H2 Malay Language & Literature
 - H2 Tamil Language & Literature
- H1 Math is recommended for 2S7 and 2S8.4H2 Subject Combinations

Students may offer 4 H2 subjects if they have attained a L1R5 (without bonus points) of **9 or better**. Students who have attained a L1R5 (without bonus points) of 10 or 11 **and** who have obtained A1 for the relevant subjects could submit an appeal application for the college's consideration.

The following tables show the **4 H2 subject combinations** offered in SAJC for 2026. These combinations will only be offered if there is sufficient demand.

Arts Course

Subject Codes	H2	H2	H2	H2
4A1	Economics	Geography	Literature	Math
4A2	Economics	History	Literature	Math

Science Course

Subject Codes	H2	H2	H2	H2
4S1	Biology	Chemistry	Math	Economics
4S2	Physics	Chemistry	Math	Economics
4S3	Physics	Math	Further Math	Economics
4S4	Chemistry	Math	Further Math	Economics

As 4H2 Subject Combination is a more demanding combination, students would be engaged at college milestone assessment check points to determine whether they are coping well.

H3 Subjects

H3 subjects have syllabi that are of a much higher level of difficulty. Students offering H3 subjects must have the time and ability to manage a workload beyond their subject combination. A H3 subject must be offered together with the corresponding subject at the H2 level.

Students may offer H3 subjects in JC2 if they meet the following requirements in their JC1 Promotional Examination: a distinction in the subject they wish to pursue as H3, a minimum of a B grade in all other H2 subjects, and a pass in their H1 subject.

Students can apply for H3 subjects offered by one of the following MOE partners involving tertiary institutions such as SMU, NUS, or NTU.

Alternatively, H3 subjects offered in SAJC include H3 Chemistry, H3 Mathematics, H3 Physics, H3 Literature, H3 Geography, and H3 History.

2025 Indicative Grade Profiles

Based on the number of places that were available for the various subject combinations offered in 2025, the following were the Indicative Grade Profiles of the corresponding subjects at O-Level:

Subject offered at A-Level	Corresponding Subject at O-Level	5th Percentile*
H2 Mathematics	Additional Mathematics	B3
H2 Biology	Pure Biology	B3
	Combined Science (with Biology)	A2
H2 Chemistry	Pure Chemistry	B3
	Combined Science (with Chemistry)	A2
H2 Physics	Pure Physics	B3
	Combined Science (with Physics)	A2

* 5th percentile refers to the bottom 5% of the 2025 Cohort who attained B3 or below for Additional Mathematics and Pure Sciences
A2 or below for Combined Sciences with the corresponding Science subject

Note:

To do a H2 Science at A-Level, a minimum of a Combined Science with the corresponding Science subject at O-Level is required.

Admission Requirements to Autonomous Universities (AU)

With effect from AY2026, NTU, NUS, SMU, SUTD, SUSS and SIT will select applicants based on their University Admission Scores (UAS) for

- **Three H2** content-based subjects and General Paper (**GP**)

Scores for H1 and MTL are included only if it improves the UAS.

In addition,

- Applicants should also meet the Mother Tongue Language (**MTL**) requirement* for admission
- A **Pass** in Project Work (**PW**) is required for admission to the AU.

Other acceptable subject combinations include: four H2 content-based subjects, Project Work and GP. If student is offering four H2 subjects, the best three grades for H2 are used for AU admission.

Please note that in addition to UAS scores, you also need to ensure you fulfil the **course or subject prerequisites** of the degree programmes that you wish to apply to in the future.

Besides examination results, the universities may also consider students' achievement in other areas, such as Co-Curricular Activities (**CCA**) and Values-in-Action (**VIA**) Programme, as reflected in their School Graduation Certificate (**SGC**).

For more information on the admission requirements please refer to the university websites.

***MTL Requirement:**

- o a minimum of D7 for the higher MTL paper taken at the GCE O-Level examination.
- o a minimum of 'S' grade for the H1 MTL paper.
- o a minimum of 'S' grade for the H2 MTL paper taken at the GCE A-Level Examination.
- o a pass in the MT 'B' Syllabus paper at the GCE A-Level Examination.

If a candidate is exempted from MTL, as approved by MOE, the MOE-approved subject-in-lieu will be considered as the MTL subject.

Candidates who are unable to fulfil the MTL requirement for admission but satisfy all other admission requirements will be admitted on a provisional basis. During their course, they will be required to attend the MTL course conducted by the University or attain the minimum requirement as listed above by retaking the MTL paper at the GCE A-Level Examination before they are allowed to graduate.

Indicative Grade Profiles for AY2024/2025 Admissions Exercise

The following information is strictly for reference only.

Please note that **prior to AY2026**, admission of graduates to the University is based on an applicant's overall A-level academic performance and the IGP comprise the grades of six A-level subjects as follows:

- Best three H2 and one H1 content-based subjects, with at least 1 content subject from a contrasting discipline
- General Paper (GP) and
- Project Work (PW)

The IGP in the tables below assume grade C for GP and PW and indicate that of the 10th percentile of the cohort. Please note that certain programmes may require grades higher than "C" for GP for the purpose of admission.

Meeting the previous year's grade/GPA scores of a degree programme does not guarantee admission to that programme in the subsequent year.

With effect from AY2026, the admission requirements will be updated to reflect the changes to the A-level Curriculum and UAS computation (refer to the previous page). Please refer to the universities' websites regularly for the most up-to-date information.

NANYANG TECHNOLOGICAL UNIVERSITY (NTU):

Grade Profiles of the 10th percentiles of A-level applicant offered places for programmes at NTU in **AY2024/2025**:

NTU Degree Programme Representative	Representative Grade Profile: 3H2/1H1
	10th percentile
Lee Kong China School of Medicine	
Medicine*	AAA/A
College of Engineering	
Renaissance Engineering*	AAA/A
Aerospace Engineering*	CCC/C
Bioengineering	BCC/D
Chemical & Biomolecular Engineering	BCC/C
Civil Engineering	CDD/D
Electrical & Electronic Engineering	CCD/C
Environmental Engineering	CCD/C
Information Engineering & Media	BCC/D
Maritime Studies	BCC/D
Materials Engineering	CCC/C
Mechanical Engineering	CDD/C
College of Computing and Data Science	
Artificial Intelligence and Society	ABC/C
Computer Engineering	ABC/C
Computer Science	ACC/B
Date Science and Artificial Intelligence	AAB/B

College of Science	
Double Major Programmes*	AAB/B
Biological Sciences*	AAC/C
Chemistry & Biological Chemistry	BBC/C
Chinese Medicine	ABC/C
Environmental Earth Systems Science*	AAB/B
Mathematical Sciences	BBC/C
Physics/Applied Physics	CCC/C
Nanyang Business School	
Accountancy*	ABC/C
Business*	ABC/C
Applied Computing in Finance*	AAC/B
College of Humanities, Arts & Social Sciences	
SOH Double Major Programmes*	AAA/C
SSS Double Major Programme	AAA/B
Art, Design and Media* [^]	BCC/C
Chinese*	BBC/C
Communication Studies*	AAC/C
Economics	BBC/B
Economics and Data Science	AAB/B
English*	BBC/B
History*	BCC/C
Linguistics & Multilingual Studies*	ABC/C
Philosophy*	BBC/C
Philosophy, Politics, and Economics	AAB/B
Psychology	AAC/B
Public Policy & Global Affairs	AAC/B
Sociology	BBC/C
National Institute of Education	
Arts (Education)*	BBC/C
Science (Education)*	AAB/C
Sport Science & Management	CCC/D

Admission to Art, Design & Media programme is based on Composite Score which comprises Entrance Requirement Score and University Admission Score.

Certain programmes may have specific subject requirements. The programmes marked with asterisk () are those where additional assessments such as interviews, selection tests, and/or portfolios are required.

The IGP provide an indication of the grade profiles for most of the applicants admitted in **AY2024-25**. There could be other “equivalent” profiles for each programme. For example, a grade profile of ABC/C could be considered to be broadly equivalent to BBB/C, unless there are pre-requisites.

Sources:

<https://www.ntu.edu.sg/admissions/undergraduate/indicative-grade-profile>

NATIONAL UNIVERSITY OF SINGAPORE (NUS):

Grade Profiles of the 10th percentiles of A-level applicant offered places for programmes at NUS in Academic Year 2024/2025:

NUS Degree Programme	Representative Grade Profile: 3H2/1H1
	10th percentile
Faculty of Law	
Law*	AAA/A
School of Medicine	
Medicine*	AAA/A
Nursing*	CCD/B
Faculty of Dentistry	
Dentistry*	AAA/A
College of Design & Engineering	
Architecture*	CCC/C
Engineering	BBB/C
Industrial Design*	BBB/B
Landscape Architecture*	CCC/B
School of Computing	
Business Analytics	AAA/A
Computer Science	AAA/A
Information Security	AAA/A
Information Systems	AAA/A
College of Design & Engineering and School of Computing	
Computer Engineering	AAA/A
College of Humanities & Sciences	
Data Science and Economics	AAA/A
Environmental Studies	AAA/C
Food Science and Technology	AAA/B
Humanities and Sciences	ABB/B
Pharmaceutical Science	AAA/A
Pharmacy^	AAA/B
Philosophy, Politics and Economics*	AAA/A
NUS Business School	
Business Administration	AAA/C

Double degrees are excluded from the table

* Degree programmes that require interview &/or test

^ Pharmacy programme does not follow CHS curriculum

Source:

<https://www.ntu.edu.sg/admissions/undergraduate/indicative-grade-profile>

SINGAPORE MANAGEMENT UNIVERSITY (SMU):

Grade Profiles of the 10th and 90th percentiles of Singapore- Cambridge GCE A-Level Applicants offered places at SMU in **AY 2024/2025** University Admissions Exercise:

SMU Degree Programme	Indicative Grade Profile 3H2/1H1 content-based subjects
	10th Percentile
Bachelor of Accountancy	BBB/C
Bachelor of Business Management	ABB/C
Bachelor of Laws	AAA/A
Bachelor of Science (Economics)	BBB/B
Bachelor of Science (Information Systems)	BBB/C
Bachelor of Science (Computer Science)	AAB/A
Bachelor of Science (Computing & Law)	ABB/A
Bachelor of Science (Software Engineering)	BBB/C
Bachelor of Social Sciences	BBB/C
Deferred Declaration of Degree/Bachelor of Integrative Studies	ABB/A

Sources:

<https://admissions.smu.edu.sg/admissions-requirements/indicative-grade-profile>

SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN (SUTD):

As a guide, the University has provided the following reference data to help prospective applicants make an informed choice in applying to the university:

Of the A Level student who were offered in the university admission exercise in 2024:
<ul style="list-style-type: none">Nearly all had taken Mathematics at H2 level, and two thirds scored As or Bs.Nearly all had taken either Physics or Chemistry (or both) at H2 Level, with about half scoring As or Bs.And had also taken the Singapore-Cambridge GCE O-Level, nearly all had scored As or Bs in Mathematics (Additional Mathematics and/or Mathematics) and Sciences (Physics and/or Chemistry).

For more information, please click the link: [Singapore University of Technology and Design | Apply Now](https://www.sutd.edu.sg/)

SINGAPORE UNIVERSITY OF SOCIAL SCIENCES (SUSS)

APPLICATION CRITERIA

The SUSS holistic admission comprises both the applicant's performance for the following assessment components (i.e., 3-stage assessment for 2024 admissions cycle), AND the applicant's grades scored for Singapore-Cambridge A-level in three H2, one H1 subjects, General Paper and Project Work (computed as University Admission Score [UAS]).

1. Essay writing – responses to an essay in relation to the research topic and video(s) [which applicant would have to prepare in advance prior to interview day];
2. Cognitive exercise – analytical and logical thinking test;
3. Programme-specific interview (either individual, cluster or assessment centre) – interview by faculty member(s) to understand the applicant's intent to read the programme, his/her passion for the discipline, as well as to assess whether applicant's disposition and personal attributes would fit the programme.

Applicants are encouraged to share their portfolio, co-curricular activities, community service, volunteering work, leadership qualities, entrepreneurship skills, internship stints, work experience, and other personal non-academic achievements, etc. with the faculty member(s).

Revised UAS Computation from AY2026: From AY2026, the following subjects will be taken into consideration for UAS computation:

- 3 H2 content-based subjects
- General Paper (GP)

H1 Mother Tongue Language and/or the fourth H1/H2 content-based subject may be considered if it improves the UAS.

Admission Requirement: From AY2026, students will be required to obtain a pass grade in Project Work to be eligible for admission.

For more information, please refer to this link:

<https://www.suss.edu.sg/full-time-undergraduate/admissions/indicative-grade-profile-igp>

Please note the information is to be used as a reference only.

SINGAPORE INSTITUTE OF TECHNOLOGY (SIT)

SIT's broad-based admissions framework considers applicants holistically based on both academic merit and non-academic merit, to ensure that the right students are admitted. If shortlisted, candidates will be called in for an interview.

For more information on SIT's Indicative Grade Profile please refer to the link below: [**SIT Indicative Grade Profile 2024**](#)

Source: <https://www.singaporetech.edu.sg/admissions/undergraduate>

Minimum Subject Requirements at the Local Autonomous Universities

In addition to fulfilling the admission requirements, you also need to ensure you fulfil the course prerequisites of the degree programmes that you wish to apply to in the future. Please refer to the soft copy of the prospectus on the school website to access the hyperlinks.

**Please refer to the respective Universities' websites for the most up-to-date information.*

REQUIREMENTS FOR COURSES IN NTU

Please note that the subject prerequisites presented below are subject to changes every year. You are strongly encouraged to visit NTU website regularly for further updates.

COLLEGE OF COMPUTING AND DATA SCIENCE		
Programmes	Minimum Subject Requirements	Selection Test/ Interview
Artificial Intelligence and Society\$	H2 Level pass in Mathematics, or H2 Level pass in Physics/Computing	
Business and Computer Engineering (Double Degree)	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing, and A good grade in GP / KI	
Business and Computing (Double Degree)	H2 Level pass in Mathematics, or H2 Level pass in Physics/Computing, and A good grade in GP / KI	
Computer Engineering*^Ea		
Computer Engineering with a Second Major in - Business - Data Analytics - Entrepreneurship - Sustainability	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	
Computer Science*^E\$		
Computer Science with a Second Major \$ in - Business - Entrepreneurship - Sustainability	H2 Level pass in Mathematics, or H2 Level pass in Physics/Computing	
Data Science and Artificial Intelligence\$		
Data Science and Artificial Intelligence with a Second Major in Sustainability\$	H2 Level pass in Mathematics	

RENAISSANCE ENGINEERING PROGRAMME		
Programme	Minimum Subject Requirements	Selection Test/ Interview
Renaissance Engineering Programme*	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	Yes

COLLEGE OF ENGINEERING		
Programmes	Minimum Subject Requirements	Selection Test/ Interview
Aerospace Engineering*^E		
Aerospace Engineering with a Second Major in - Business - Data Analytics - Entrepreneurship - Sustainability	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	
Bioengineering*^E		
Bioengineering with a Second Major in - Business - Data Analytics - Entrepreneurship - Future Foods ^{NEW} - Pharmaceutical Engineering - Sustainability	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	
Chemical and Biomolecular Engineering*^E	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	

COLLEGE OF ENGINEERING



Programmes	Minimum Subject Requirements	Selection Test/ Interview
Chemical and Biomolecular Engineering with a Second Major in - Business - Data Analytics - Entrepreneurship - Future Foods ^{NEW} - Sustainability	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	
Civil Engineering* ^{A,E} Civil Engineering with a Second Major in - Business - Data Analytics - Entrepreneurship - Society and Urban Systems - Sustainability	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	
Electrical and Electronic Engineering* ^{A,E} Electrical and Electronic Engineering with a Second Major in - Business - Data Analytics - Entrepreneurship - Society and Urban Systems - Sustainability	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	
Environmental Engineering* ^{A,E} Environmental Engineering with a Second Major in - Business - Data Analytics - Entrepreneurship - Future Foods ^{NEW} - Society and Urban Systems - Sustainability	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	
Information Engineering and Media* ^{A,E} Information Engineering and Media with a Second Major in - Business - Data Analytics - Entrepreneurship - Sustainability	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	
Maritime Studies ^S Maritime Studies with a Second Major in - Business ^S - Sustainability ^S - Data Analytics ^S	H1 Level pass in Mathematics, or 'O' Level/equivalent pass in Additional Mathematics H2 Level pass in Mathematics	
Materials Engineering* ^{A,E} Materials Engineering with a Second Major in - Business - Data Analytics - Entrepreneurship - Future Foods - Medical Biology - Pharmaceutical Engineering - Sustainability	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology	

COLLEGE OF ENGINEERING



Programmes	Minimum Subject Requirements	Selection Test/ Interview
Mechanical Engineering ^{*^E}		
Mechanical Engineering with a Second Major in <ul style="list-style-type: none"> - Business - Data Analytics - Entrepreneurship - Society and Urban Systems - Sustainability 	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	
Process Engineering and Synthetic Chemistry ^{ΦNEW}	H2 Level pass in Mathematics, and H2 Level pass in Chemistry	Yes
Robotics ^{ΛNEW}		
Robotics with a Second Major in ^{ΛNEW} <ul style="list-style-type: none"> - Business - Data Analytics - Entrepreneurship - Society and Urban Systems - Sustainability 	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	

COLLEGE OF HUMANITIES, ARTS AND SOCIAL SCIENCES



Programmes	Minimum Subject Requirements	Selection Test/ Interview
Art, Design and Media	'O' Level/equivalent pass in Mathematics, and A good grade in General Paper/Knowledge & Inquiry In addition, applicants are required to produce and submit the following materials for admissions assessment: 1. A portfolio 2. Personal statement and writing samples 3. A creative project 4. An observational drawing For specific submission instructions and details, please refer to ADM Admissions Requirements .	
Chinese	Pass in H2 Level Chinese subjects, or Good pass in H1 Level Chinese subjects, or Good pass in 'O' Level Higher Chinese, or Good pass in 'O' Level Chinese	
Chinese and English (Double Major) [⌘]	A good grade in General Paper/Knowledge & Inquiry/H1 or H2 Level Humanities subject; and	
Chinese and Linguistics & Multilingual Studies (Double Major) [⌘]	Pass in H2 Level Chinese subjects, or Good pass in H1 Level Chinese subjects, or Good pass in 'O' Level Higher Chinese, or Good pass in 'O' Level Chinese	Yes
Communication Studies		
Communication Studies with a Second Major in <ul style="list-style-type: none"> - Business - Governance and International Relations 	H1 Level pass in Mathematics, or 'O' level/equivalent pass in Additional Mathematics, and At least a B grade in General Paper/Knowledge & Inquiry	
Economics	A good grade in H1 Level Mathematics, and A good grade in General Paper/Knowledge & Inquiry	
Economics with a Second Major in Business		
Economics and Data Science ^S	A good grade in H2 Level Mathematics, and A good grade in General Paper/Knowledge & Inquiry	
Economics and Media Analytics (Double Major) [⌘]	A good grade in H2 Level Mathematics, and At least a B grade in General Paper/Knowledge & Inquiry	On a selective basis
Economics and Psychology (Double Major) [⌘]	A good grade in H2 Level Mathematics, and A good grade in General Paper/Knowledge & Inquiry	
Economics and Public Policy & Global Affairs (Double Major) [⌘]	A good grade in H2 Level Mathematics, and A good grade in General Paper/Knowledge & Inquiry/H1 Level History/English Literature/Geography	

COLLEGE OF HUMANITIES, ARTS AND SOCIAL SCIENCES



Programmes	Minimum Subject Requirements	Selection Test/ Interview
English		
English Literature and Art History (Double Major) [⌘]	A good grade in General Paper/Knowledge & Inquiry/H1 or H2 Level Humanities subject	Yes
English and History (Double Major) [⌘]		
English and Philosophy (Double Major) [⌘]		
History	A good grade in General Paper/Knowledge & Inquiry/H1 or H2 Level Humanities subject	
History and Chinese (Double Major) [⌘]	A good grade in General Paper/Knowledge & Inquiry/H1 or H2 Level Humanities subject; and Pass in H2 Level Chinese subjects, or Good pass in H1 Level Chinese subjects, or Good pass in 'O' Level Higher Chinese, or Good pass in 'O' Level Chinese	
History and Linguistics & Multilingual Studies (Double Major) [⌘]	A good grade in General Paper/Knowledge & Inquiry/H1 or H2 Level Humanities subject	
Linguistics and Multilingual Studies		
Linguistics & Multilingual Studies and English (Double Major) [⌘]	A good grade in General Paper/Knowledge & Inquiry/H1 or H2 Level Humanities subject	Yes
Linguistics & Multilingual Studies and Philosophy (Double Major) [⌘]		
Philosophy	A good grade in General Paper/Knowledge & Inquiry/H1 or H2 Level Humanities subject	
Philosophy and Chinese (Double Major) [⌘]	A good grade in General Paper/Knowledge & Inquiry/H1 or H2 Level Humanities subject; and Pass in H2 Level Chinese subjects, or Good pass in H1 Level Chinese subjects, or Good pass in 'O' Level Higher Chinese, or Good pass in 'O' Level Chinese	
Philosophy and History (Double Major) [⌘]	A good grade in General Paper/Knowledge & Inquiry/H1 or H2 Level Humanities subject	
Philosophy, Politics and Economics	A good grade in H2 Level Mathematics, and A good grade in General Paper/Knowledge & Inquiry/H1 or H2 Level Humanities subject	
Psychology	A good grade in H1 Level Mathematics, and A good grade in General Paper/Knowledge & Inquiry	On a selective basis
Psychology with a Second Major in Biological Sciences	A good grade in H1 Level Mathematics, and A good grade in General Paper/Knowledge & Inquiry, and H1 Level pass in Physics/Chemistry/Biology	
Psychology and Linguistics & Multilingual Studies (Double Major) [⌘]	A good grade in H1 Level Mathematics, and A good grade in General Paper/Knowledge & Inquiry/H1 or H2 Level Humanities subject	Yes
Psychology and Media Analytics (Double Major) [⌘]	A good grade in H1 Level Mathematics, and At least a B grade in General Paper/Knowledge & Inquiry	
Public Policy and Global Affairs	A good grade in General Paper/Knowledge & Inquiry/H1 Level History/English Literature/Geography	
Public Policy and Global Affairs with a Second Major in Media and Journalism Studies	H1 Level pass in Mathematics, or 'O' level/equivalent pass in Additional Mathematics, and At least a B grade in General Paper/Knowledge & Inquiry	On a selective basis
Sociology	A good grade in General Paper/Knowledge & Inquiry	

COLLEGE OF SCIENCE



Programmes	Minimum Subject Requirements	Selection Test/ Interview
Biological Sciences		
Biological Sciences with a Second Major in <ul style="list-style-type: none"> - Biomedical Structural Biology - Sustainability - Data Analytics - Future Foods <small>NEW</small> - Medicinal Chemistry and Pharmacology 	H1 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology	On a selective basis
	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology	
	H1 Level pass in Mathematics, and H2 Level pass in Chemistry	



COLLEGE OF SCIENCE

Programmes	Minimum Subject Requirements	Selection Test/ Interview
Biomedical Sciences and BioBusiness (Double Major)	H1 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology	Yes
Biological Sciences and Psychology (Double Major)	A good grade in H1 Level Mathematics, and H2 Level pass in Physics/Chemistry/Biology, and A good grade in General Paper/Knowledge & Inquiry	On a selective basis
Chemistry and Biological Chemistry		
Chemistry and Biological Chemistry with a Second Major in		
- Business (International Trading)		
- Entrepreneurship		
- Environmental Science		
- Future Foods ^{NEW}		
- Sustainability		
- Data Analytics	H2 Level pass in Chemistry, and H2 Level pass in Mathematics	
Chinese Medicine	H1 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology, and 'O' Level pass in Chinese	Yes
Environmental Earth Systems Science		
Environmental Earth Systems Science with a Second Major in		
- Entrepreneurship	H1 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing/Economics	
- Future Foods ^{NEW}		
- Sustainability		
- Data Analytics	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	
Environmental Earth Systems Science and Public Policy & Global Affairs (Double Major)	H1 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing/Economics, and A good grade in General Paper/Knowledge & Inquiry/H1 Level History/English Literature/Geography	
Mathematical Sciences ^{AA}		
Mathematical Sciences with a Second Major in		
- Entrepreneurship	H2 Level pass in Mathematics	
- Sustainability		
- Data Analytics		
Mathematical and Computer Sciences (Double Major)	H2 Level pass in Mathematics, and H2 Level pass in Physics/Chemistry/Biology/Computing	
Mathematical Sciences and Economics (Double Major)	H2 Level pass in Mathematics, and A good grade in General Paper/Knowledge & Inquiry	
Applied Physics with a Second Major in		
- Entrepreneurship	H2 Level pass in Physics [⊕] , and H2 Level pass in Mathematics	
- Medical Physics		
- Microelectronics Engineering		
Physics/Applied Physics		
Physics/Applied Physics with a Second Major in		
- Data Analytics	H2 Level pass in Physics, and H2 Level pass in Mathematics	
- Quantum Technologies		
- Sustainability		
Physics and Mathematical Sciences (Double Major)		

LEE KONG CHIAN SCHOOL OF MEDICINE



Programme	Minimum Subject Requirements	Selection Test/ Interview
Medicine	<p>H2 Level pass in Chemistry, and H2 Level pass in Biology/Physics</p> <p>In addition, applicants are required to submit the following materials for admissions assessment:</p> <ol style="list-style-type: none"> 1. Academic results 2. University Clinical Aptitude Test (UCAT) results <ul style="list-style-type: none"> ► Only UCAT results taken in the twelve-month period prior to admission to LKCMedicine will be considered in the selection process. 3. Personal statement 4. Two online referee reports <ul style="list-style-type: none"> ► One of the referees must be the applicant's civics tutor/form teacher. The online referee report is in question-and-answer format. The questions will take no more than 10 minutes to complete. Instructions and login details will be provided to applicants who will in turn forward the login information to their referees. <p>Applicants are also recommended to provide details of exceptional talents and/or outstanding achievements beyond school co-curricular activities for admissions assessment.</p> <p>University Clinical Aptitude Test (UCAT)</p> <p>Applicants will have to register for the University Clinical Aptitude Test (UCAT) and take the UCAT as part of the criteria for entry to the LKCMedicine MBBS programme.</p> <p>The University Clinical Aptitude Test (UCAT) is a computer-based admissions test, used by a consortium of UK Universities and non-UK associate member universities including Lee Kong Chian School of Medicine (LKCMedicine) to help select applicants for medical and dental degree programmes.</p> <p>It is a two-hour test consisting of four separately timed subtests in multiple-choice format. It is an aptitude test focused on assessing a range of mental abilities and knowledge candidates should already have.</p> <p>If one is applying to the AY2026-27 intake of LKCMedicine, one should take UCAT between 7 July and 26 September 2025, prior to applying to LKCMedicine.</p> <p>A copy of the UCAT leaflet can be downloaded here.</p> <p>For more details on the UCAT, including information on how to prepare for it, please click here.</p> <p>For further details, please visit https://www.ntu.edu.sg/medicine/education/bachelor-of-medicine-and-bachelor-of-surgery-(mbbs)</p>	Yes

NANYANG BUSINESS SCHOOL



Programmes	Minimum Subject Requirements	Selection Test/ Interview
Accountancy#		
Accountancy with a Second Major in <ul style="list-style-type: none"> - Entrepreneurship - Sustainability 	H1 Level pass in Mathematics, or 'O' Level/equivalent pass in Additional Mathematics, and A good grade in General Paper/Knowledge & Inquiry	
Accountancy (Sustainability Management and Analytics)		
Accountancy and Data Science & Artificial Intelligence (Double Degree)	H2 Level pass in Mathematics , and A good grade in General Paper/Knowledge & Inquiry	
Accountancy and Business (Double Degree)	H1 Level pass in Mathematics, or 'O' Level/equivalent pass in Additional Mathematics , and A good grade in General Paper/Knowledge & Inquiry	Some candidates may be invited for interviews.
Accountancy and Business (Double Degree) with a Second Major in Entrepreneurship	H1 Level pass in Mathematics, or 'O' Level/equivalent pass in Additional Mathematics , and A good grade in General Paper/Knowledge & Inquiry	
Applied Computing in Finance	H2 Level Pass in Maths , and A good grade in General Paper/Knowledge & Inquiry	
Business (Double Major)NEW		
Business (Single Major)		
Business with Second Major in <ul style="list-style-type: none"> - Entrepreneurship - Sustainability 	H1 Level pass in Mathematics, or 'O' Level/equivalent pass in Additional Mathematics , and A good grade in General Paper/Knowledge & Inquiry	



NATIONAL INSTITUTE OF EDUCATION

Programmes	Minimum Subject Requirements	Selection Test/ Interview
Arts (Academic Discipline & Education) [▲]	Pass in General Paper/Knowledge & Inquiry	
Science (Academic Discipline & Education) [▲]		
Sport Science & Management [§]	H1 Level pass in Mathematics, or 'O' level/equivalent pass in Additional Mathematics	Yes
Sport Science & Management with a Second Major in Sustainability [§]		

Footnote to Minimum Subject Requirements

- + H1 Level/'O' Level pass in Physics/equivalent is only applicable to applicants who have not read Physics at H2 Level.
- ¥ Programme leading to Bachelor of Engineering Science and Master of Science in Technology Management.
- * The programme is also offered as a double degree programme with Economics.
- ^ The programme is also offered as a single degree programme with a Minor in Business.
- £ The programme is also offered as a single degree programme with a Minor in International Trading.
- § Programme leading to Bachelor of Science degree.
- ⌘ The programme is offered as a single degree programme with two distinct majors. Each major carries equal weight in the degree.
- ^^The programme is also offered as a single degree programme with a Minor in Finance.
- # The programme is also offered as a single degree programme with a Minor in Digitalisation and Data Analytics.
- ▲ These degree programmes offer many courses which may require further subject prerequisites. Please refer to the National Institute of Education (NIE) website for details.
- ¤ Programme leading to Bachelor of Engineering.
- \$ Programme leading to Bachelor of Computing.
- ◊ This is a double major programme leading to a Bachelor of Engineering Science degree.

More details can be found at NTU website: [alevel_minimum_subject_requirement.pdf](#) and [Admission Guide | NTU Singapore](#).

REQUIREMENTS FOR COURSES IN NUS

Admission is based on academic merit as well as open competition among all eligible applicants. In addition to fulfilling admission requirements for the applicant category that you belong to; you should also ensure that you fulfil the subject prerequisites for the programmes which you wish to be considered for.

Please note that the subject prerequisites presented below are subject to changes every year. You are strongly encouraged to visit NUS website regularly for further updates.



Singapore-Cambridge GCE A-Level
Information accurate as of January 2025

Singapore-Cambridge A-Level Applicants with H1/H2 Results

Single Degree Programmes	Subject Requirements	Selection test / interview
Architecture^	H1 pass in Chemistry, Mathematics or Physics; <i>OR</i> Pass in O-Level Additional Mathematics	Yes
Business Administration	H1 pass in Mathematics; <i>OR</i> Pass in O-Level Additional Mathematics	No
Business Analytics	H2 pass in Mathematics <i>or</i> Further Mathematics	No
Business Artificial Intelligence Systems (formerly known as 'Information Systems')	H2 pass in Computing; <i>OR</i> A good pass in H1 Mathematics	No
Common Computer Science Programmes	H2 pass in Computing, Mathematics, Further Mathematics <i>or</i> Physics; <i>OR</i> A good pass in H1 Mathematics	No
Computer Engineering	H2 pass in Mathematics <i>or</i> Further Mathematics and either Physics, Computing or Chemistry <i>Students without H1 or H2 Physics need to have an O-Level pass in Physics or its equivalent and would be required to take Physics bridging modules.</i>	No
Data Science and Economics	Very good pass in H2 Mathematics	No
Dentistry*	H2 pass in Chemistry and either Biology <i>or</i> Physics	Yes
Engineering	H2 pass in Mathematics <i>or</i> Further Mathematics Please refer to https://cde.nus.edu.sg/ for details.	No
Environmental Studies	Please refer to https://chs.nus.edu.sg/programmes/bes/ for details. <i>Students who do not have a pass in H2 Biology (or equivalent) are required to take the bridging course in Biology, LSM1301, upon successful admission to the programme.</i>	No
Food Science and Technology	H2 pass in any two of the following: Chemistry, Biology, Physics, Computing, Mathematics <i>or</i> Further Mathematics	No
Humanities and Sciences	Please refer to https://chs.nus.edu.sg/programmes/#prog-majors for details.	No
Industrial Design^	H1 pass in Mathematics, Physics, Economics <i>or</i> Art; <i>OR</i> Pass in O-Level Additional Mathematics	Yes
Information Security	H2 pass in Computing, Mathematics, Further Mathematics <i>or</i> Physics; <i>OR</i> A good pass in H1 Mathematics	No

Single Degree Programmes	Subject Requirements	Selection test / interview
Landscape Architecture [^]	H1 pass in Chemistry, Mathematics or Physics; OR Pass in O-Level Additional Mathematics	Yes
Law [#]	Good overall A-Level results, including <ul style="list-style-type: none"> • At least a B grade in H1 General Paper (GP); OR • A good pass in H2 Knowledge & Inquiry (KI); OR • A minimum SAT Evidence-Based Reading & Writing score of 700 accompanied by a minimum E grade for GP/KI 	Yes
Medicine*	H2 pass in Chemistry and either Biology or Physics <i>Students applying for Medicine need to submit a portfolio to NUS Medicine Admissions Portal after completing their undergraduate admissions application.</i>	Yes
Music	Application for the Music course must be filed directly to the Conservatory. Please refer to https://www.ystmusic.nus.edu.sg/ for more information.	Yes
Nursing [^]	H2 pass in any two of the following: Biology, Chemistry, Computing, Physics and Mathematics	Yes
Pharmacy	Very good pass in H2 Chemistry and very good pass in H2 Biology, Physics, Mathematics or Further Mathematics <i>Students applying to Pharmacy should refer to https://pharmacy.nus.edu.sg/study/undergraduate/bachelor-of-pharmacy/ for important information on the 'Fitness to Practice'.</i>	No
Pharmaceutical Science	Very good pass in H2 Chemistry and very good pass in H2 Biology, Physics, Mathematics or Further Mathematics	No
Philosophy, Politics, and Economics	Please refer to https://chs.nus.edu.sg/programmes/ppe for details.	Yes

* To be considered for Dentistry or Medicine, you must rank these undergraduate programmes as first or second choice. If Dentistry or Medicine is ranked as second choice, your first choice needs to be an interview programme.

To be considered for Law, you must rank this undergraduate programme as first, second or third choice. If Law is ranked as your second choice or third choice, the choice(s) ranked above need to be an interview programme.

[^] To be considered for Architecture, Industrial Design, Landscape Architecture or Nursing, you must rank these undergraduate programmes as first, second choice or third choice.

For Concurrent Degree, Double Degree, Double Majors, Major Minor or Specialisation Programmes, please refer to this link:

https://nus.edu.sg/oam/docs/default-source/admissions/a_ib_nushs-mdp.pdf

REQUIREMENTS FOR COURSES IN SMU

SMU comprises of eight schools, each offering undergraduate programmes:

- School of Accountancy
- Lee Kong Chian School of Business,
- School of Computing and Information Systems
- School of Economics
- School of Social Sciences
- Yong Pung How School of Law
- College of Integrative Studies
- SMU-Duke-NUS MD Programme.

The programmes the six schools offer include:

- Bachelor of Integrative Studies
- Bachelor of Accountancy
- Bachelor of Business Management
- Bachelor of Laws
- Bachelor of Science (Computer Science)
- Bachelor of Science (Computing & Law)
- Bachelor of Science (Economics)
- Bachelor of Science (Information Systems)
- Bachelor of Science (Software Engineering) WSDeg
- Bachelor of Social Science
- SMU-Duke-NUS Medicine Pathway

SMU offers more than 300 double major combinations and over 20 double degree programmes. To find out more about a major you are interested in click [here](#).

For more information on the programmes offered in SMU, please click [here](#).

Programmes	Admission and Requirements
All Courses	From 2026, the admission requirements to the autonomous universities would be updated to reflect the changes to the A-level curriculum and University Admission Score. For the latest information, please refer to the university website regularly.
Law/Computing & Law	Law/Computing & Law applicants must meet at least one of the following requirements: <ul style="list-style-type: none">• GP grade of A or B Applicants who fall short of the above minimum requirements may be considered on a case-by-case basis.
Economics	A good pass in H2 Math or H2 Further Math or Additional Maths at GCE O-Level. Applicants who do not have this requirement can still apply for consideration if they have alternative Mathematics content background. The School of Economics makes the final decision on admission.
Computer Science	A good pass in H2 Math or H2 Further Math or H2 Physics or H1 Math. Applicants who do not have this requirement can still apply for consideration if they have alternative Mathematics content background. The School of Information Systems makes the final decision on admission.

More details can be found at the following websites: -

<https://admissions.smu.edu.sg/programmes>

<https://admissions.smu.edu.sg/admissions-requirements/singapore-cambridge-gce-levels#admissionsrequirements>

REQUIREMENTS FOR COURSES IN SUTD

SUTD currently offers five undergraduate programmes. Their undergraduate programmes are developed to offer a modern engineering and architectural education that crosses traditional disciplines. They prepare students for roles that involve design, technical leadership and creative thinking:

Architecture and Sustainable Design (ASD)

Bachelor of Science (Architecture and Sustainable Design)

ASD prepares students for the future needs of architecture in a digital era – ecological urban architecture, leveraging on big data to design smart cities, advanced design computation, digital fabrication and more.

Computer Science and Design (CSD)

Bachelor of Engineering (Computer Science and Design)

CSD prepares students for the design of software as well as integrated software/hardware systems that interact with human and machines

Design and Artificial Intelligence (DAI)

Bachelor of Science (Design and Artificial Intelligence)

DAI prepares students for an artificial intelligence-driven economy, where they can boost productivity and create economic value through sustainable applications.

Engineering Product Development (EPD)

Bachelor of Engineering (Engineering Product Development)

EPD prepares students for leadership in the conception, design, implementation and operation of innovative technology-intensive products.

Engineering Systems and Design (ESD)

Bachelor of Engineering (Engineering Systems and Design)

ESD prepares students for the design, analysis, optimisation and management of large-scale complex systems

For more information on Minors and Specialisation offered under each programme, please click [here](#)

Programmes	Admission Requirements
All Courses	<p>From AY2026, the following subjects will be taken into consideration for UAS computation:</p> <ul style="list-style-type: none">• 3 H2 content-based subjects• General Paper (GP) <p>H1 Mother Tongue Language and/or the fourth H1/H2 content-based subject may be considered if it improves the UAS.</p> <p>From AY2026, students will be required to obtain a pass grade in Project Work to be eligible for admission.</p> <p>For the latest information, please refer to the university website regularly.</p> <ul style="list-style-type: none">• The University accepts applications from both Science and Arts stream students.• While it is recommended that you have taken Mathematics and a Science subject, i.e. Physics or Chemistry, at H2, the university considers your results in Mathematics and the Science subjects

	<p>taken at H1, O-level or equivalent as well. You may also be encouraged to take bridging modules before the start of term.</p> <p>All Singapore Citizens and Permanent Residents are required to fulfil the MTL requirement for admission into full-time publicly funded undergraduate programmes in the universities.</p> <p>The MTL requirement may be fulfilled through the following:</p> <ol style="list-style-type: none"> 1. a D7 grade for Higher MTL at Singapore-Cambridge GCE O-Level (the iGCSE MTL First Language examination does not fulfil the requirement); or 2. a pass in MTL 'B' or a S grade for H1 MTL/ MTL-in-lieu or H2 MTL Language and Literature or 3. a pass in MTL A: Literature, or MTL A: Language and Literature, or Language B MTL at Standard or Higher Level at International Baccalaureate Diploma Programme (the IB Standard Level Language ab initio does not fulfil the requirement). <p>Those who have not fulfilled the MTL requirement may still apply for admission with no prejudice to their application. However, if accepted, they will be required to fulfil the MTL requirement during their course of study.</p> <p>Shortlisted candidates will be notified to attend an in-person or online interview.</p> <p>Of the A Level student who were offered in the university admission exercise in 2024:</p> <p>Nearly all had taken Mathematics at H2 level, with the majority having scored As or Bs.</p> <p>Nearly all had taken either Physics or Chemistry (or both) at H2 Level, with about half scoring As or Bs.</p> <p>And had also taken the Singapore-Cambridge GCE O-Level, nearly all had scored As or Bs in Mathematics (Additional Mathematics and/or Mathematics) and Sciences (Physics and/or Chemistry).</p>
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More details can be found at the following websites: -

[Indicative grade profile \(IGP\) - Singapore University of Technology and Design \(SUTD\)](https://www.sutd.edu.sg/admissions/undergraduate/singapore-cambridge-gce-a-level/criteria-for-admission/)
<https://www.sutd.edu.sg/admissions/undergraduate/singapore-cambridge-gce-a-level/criteria-for-admission/>

REQUIREMENTS FOR COURSES IN SUSS

Singapore University of Social Services (SUSS) is a university with a rich heritage in inspiring lifelong education and transforming society through applied social sciences. The university offers more than 80 undergraduate programmes offered through its five schools:

School of Humanities and Behavioural Sciences
 School of Business
 SR Nathan School of Human Development
 School of Law, and
 School of Science and Technology
 School of Social work and Development

The full-time undergraduate programmes offered include:

Bachelor of Accountancy
Bachelor of Early Childhood Education
Bachelor of Human Resource Management
Bachelor of Arts in Chinese Studies
Bachelor of Public Safety and Security
Bachelor of Science in Business Analytics
Bachelor of Science in Finance
Bachelor of Science in Information and Communication Technology
Bachelor of Science in Marketing
Bachelor of Science in Supply Chain Management
Bachelor of Social Work
Bachelor of Laws

Programmes	Minimum Subject Requirements
Full Time Undergraduate Programme	<p>From AY2026, the following subjects will be taken into consideration for UAS computation:</p> <ul style="list-style-type: none">• 3 H2 content-based subjects• General Paper (GP) <p>H1 Mother Tongue Language and/or the fourth H1/H2 content-based subject may be considered if it improves the UAS.</p> <p>From AY2026, students will be required to obtain a pass grade in Project Work to be eligible for admission.</p> <p>For the latest information, please refer to the university website regularly.</p> <ul style="list-style-type: none">• Shortlisted applicants may be required to undergo one or more interviews and/or take written admission or other evaluation/selection tests as may be prescribed by SUSS from time to time.• All applications are considered individually on merit, and the offer of admission is dependent on the number of places available in individual programme.• If you do not have a Grade C6 in GCE 'O' level English Language (or equivalent), you may be required to take additional test(s) and/or English Language proficiency course(s). <p>Singapore Citizens and Permanent Residents with GCE A Level need to meet one of the following MTL requirements if you have the following education background:</p> <ul style="list-style-type: none">- Minimum of D7 for the higher MTL paper taken at the GCE 'O' Level examination or minimum of 'S' grade for the H1 MTL paper or minimum of 'S' grade for the H2 paper taken at the GCE 'A' Level examination or a Pass in the MTL 'B' Syllabus paper at the GCE 'A' Level examination.
Law Programme	<p>The Law programme is open to Singaporeans and Permanent Residents only.</p> <ul style="list-style-type: none">• Applicants to the LLB programme must have at least the GCE 'A' level with three H2 passes.

	<ul style="list-style-type: none"> Demonstrate aptitude to practice law through taking the UK Law National Aptitude Test (LNAT) <p>Additionally, applicants must also meet the English Language proficiency requirement and the following mother tongue (MTL) requirement:</p> <p>For more information, please refer to: https://www.suss.edu.sg/law-programmes/admissions/eligibility</p>
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For information about SUSS please refer to the following link: <https://www.suss.edu.sg/>

SINGAPORE INSTITUTE OF TECHNOLOGY (SIT)

Programmes	Admission Requirements
All Courses	<p>From AY2026, the following subjects will be taken into consideration for UAS computation:</p> <ul style="list-style-type: none"> 3 H2 content-based subjects General Paper (GP) <p>H1 Mother Tongue Language and/or the fourth H1/H2 content-based subject may be considered if it improves the UAS.</p> <p>From AY2026, students will be required to obtain a pass grade in Project Work to be eligible for admission.</p> <p>In addition, applicants must meet one of the following Mother Tongue Language (MTL) requirements:</p> <ul style="list-style-type: none"> A minimum 'S' grade for the H1 or H2 MTL paper or General Studies in Chinese taken at the GCE A Level examination Pass in the MTL 'B' Syllabus paper at the A Level examination A minimum D7 for the higher MTL paper taken at the O Level examination <p>For those who are exempted from MTL, the MOE-approved subject-in-lieu will be considered as their MTL subject. Those who have not fulfilled the MTL requirement may still apply for admission. Their application will be reviewed without prejudice. However, if accepted, they will be required to (i) attain any of the minimum requirements as a private candidate, or (ii) attend equivalent courses conducted by pre-approved language schools before being allowed to graduate.</p> <p>Some programmes have programme-specific requirements for application.</p> <p>Find out about the additional requirements: https://www.singaporetech.edu.sg/admissions/undergraduate/requirements</p>

Applicants presenting A Level qualification may consider the undergraduate degree programmes offered by the following providers:

DigiPen Institute of Technology Singapore
Singapore Institute of Technology

Singapore Institute of Technology and DigiPen Institute of Technology Singapore
Singapore Institute of Technology and University of Glasgow
Singapore Institute of Technology and Massey University
Singapore Institute of Technology and Newcastle University
Singapore Institute of Technology and Technical University of Munich
The Culinary Institute of America

Please click on the programmes below to find out more.

- [Aerospace and Aviation](#)
- [Allied Health](#)
- [Building and Infrastructure Engineering](#)
- [Business and Management](#)
- [Chemical Engineering](#)
- [Design and Media](#)
- [Digital Supply Chain](#)
- [Electrical and Electronics Engineering](#)
- [Food Technology](#)
- [Information and Digital Technology](#)
- [Mechanical Engineering](#)
- [Nursing](#)
- [Pharmaceutical Engineering](#)
- [Systems Engineering](#)
- [Transport Engineering](#)

To explore the wide range of undergraduate programmes, please click [here](#).

For more information on SIT please refer to <https://www.singaporetech.edu.sg/>

H1 General Paper

Subject Code: 8881

Course Objectives

- 1 To understand better the world and themselves by fostering a critical awareness of continuity and change in the human experience;
- 2 To broaden their global outlook and deepen their understanding of local issues as well as how issues of regional and global importance relate to Singapore;
- 3 To appreciate the interrelationship of ideas across time, space and disciplines;
- 4 To develop critical and inventive thinking skills;
- 5 To develop critical reading skills and engage in independent research; and
- 6 To develop the skills of communicating clearly, accurately and effectively using the English language.

Course Content

Paper 1 (Essay)

The suggested topic areas are:

- Historical, social, cultural, economic, political and philosophical topics
- Science including its history, philosophy, general principles, current developments and applications
- Mathematical and geographical topics
- Literature and language
- Arts and crafts
- Topics of local interest and global concern.

Candidates will be tested on the maturity of thought appropriate to Pre-University students which would include an understanding of general principles and applications.

Paper 2 (Comprehension)

The course aims to develop the following abilities in students:

- 1 To better comprehend English prose passages as a whole and in detail
- 2 To infer relevant information
- 3 To summarise information
- 4 To evaluate information
- 5 To make observations of patterns and relationships
- 6 To apply understanding and interpretation in a task derived from the text(s)
- 7 To re-express material supplied in texts in continuous form
- 8 To gain knowledge and understanding of common English usage

Scheme of Assessment

Paper	Description	Duration	Marks	Weighting
1	Essay	1 hr 30 min	50	50%
2	Comprehension	1 hr 30 min	50	50%

Project Work

Subject Code: 8882

Course Objectives

Project Work (PW) is a learning experience which aims to provide students with the opportunity to synthesise knowledge from various areas of learning, and critically and creatively apply it to real life situations. This process which enhances students' knowledge and enables them to acquire skills like collaboration, communication and independent learning prepares them for lifelong learning and the challenges ahead.

Learning Outcomes of Project Work

The learning outcomes identify the key areas of learning of the subject. Three learning outcomes are separately articulated: critical and inventive thinking, communication and collaboration. While students learn to work in groups, they will also learn through self-reflection and evaluation of their own work processes. These learning outcomes exist in dynamic interplay rather than as compartmentalized and distinct categories. The following are the learning outcomes of PW:

- ***Critical & Inventive Thinking***

Students will be able to demonstrate critical and inventive thinking skills in gathering, analysing and evaluating information, and generating ideas that address real-world needs;

- ***Communication***

Students will be able to communicate clearly, coherently and persuasively in collaborative discussion and in presenting ideas to a specific audience in both the written and oral forms; and

- ***Collaboration***

Students will be able to apply collaborative skills in managing the project effectively to achieve the group's goals.

Objectives of Assessment

The assessment in PW aims to measure the extent to which the students have achieved the expected learning outcomes. During the course, students have to demonstrate their ability, individually and as a group, by applying the knowledge learned to develop a project task.

Students will be assessed in the following areas:

- ***Critical & Inventive Thinking***

Candidates are expected to demonstrate the ability to gather, analyse and evaluate information and generate ideas. They are expected to apply these skills as they carry out a project task.

- ***Communication***

Candidates are expected to demonstrate the ability to present ideas clearly, coherently and persuasively to a specific audience in both the written and oral forms.

- ***Collaboration***

Candidates are expected to apply collaborative skills in managing the project effectively to achieve the group's goals and participate collaboratively in contributing to a group response.

Scheme of Assessment

Candidates are required to complete the following 2 compulsory papers:

1. Written Component

Paper 1a: Project Summary

- Produce a group **Project Summary** of about 1200 words on the project.

Paper 1b: Insights & Reflections

- Produce an individual **Insights & Reflections** of 400 words based on the project.

2. Oral Component

Paper 2: Oral Presentation

- Give an **Oral Presentation** on the project and contribute to a group response to questions posed by the assessors.

H1 Mathematics

(Subject code: 8865)

H1 Mathematics provides students with a foundation in mathematics and statistics that will support their business or social sciences studies at the university. It is particularly appropriate for students without an Additional Mathematics background because it offers an opportunity for them to learn important mathematical concepts and skills in algebra and calculus that were taught in Additional Mathematics. Students will also learn basic statistical methods that are necessary for studies in business and social sciences.

Course objectives

To enable students to:

1. acquire mathematical concepts and skills to support their tertiary studies in business and the social sciences;
2. develop thinking, reasoning, communication and modelling skill through a mathematical approach to problem solving;
3. connect ideas within mathematics and apply mathematics in the context of business and social sciences; and
4. experience and appreciate the value of mathematics in life and other disciplines.

Use of Graphing Calculators (GC)

The use of GC will be expected. The examination papers will be set with the assumption that candidates will have access to a GC.

Course Requirements

Knowledge of the content of 'O'-Level Mathematics is assumed.

Syllabus Outline

It covers *Functions and Graphs*, *Calculus* and *Probability and Statistics*. A major focus of the syllabus will be the understanding and application of basic concepts and techniques of statistics. This will equip students with the skills to analyse and interpret data and make informed decisions.

	Topics	Sub-topics
1	Functions and Graphs	1.1 Exponential & Logarithm Functions & Graphing Techniques; 1.2 Equations & Inequalities
2	Calculus	2.1 Differentiation 2.2 Integration
3	Probability & Statistics	3.1 Probability 3.2 Binomial Distribution 3.3 Normal Distribution 3.4 Sampling 3.5 Hypothesis Testing 3.6 Correlation & Linear regression

Assessment Objectives (AO)

The assessment will test candidates' abilities to:

- | | |
|-----|---|
| AO1 | Use mathematical techniques and procedures <ul style="list-style-type: none">• Recall facts, formulas and notation and use them directly.• Read and use information from tables, graphs, diagrams and texts.• Carry out straightforward mathematical procedures. |
| AO2 | Formulate and solve problems including those in real-world contexts <ul style="list-style-type: none">• Select relevant mathematical concept or strategy to apply.• Formulate problems into mathematical expressions or models.• Integrate mathematical concepts to solve mathematical problems.• Translate between equivalent forms of mathematical expressions or statements.• Interpret results in the context of a given problem. |
| AO3 | Reason and communicate mathematically <ul style="list-style-type: none">• Explain the choice of mathematical models or strategies.• Make deductions, inferences and generalisations• Formulate conjectures and justify mathematical statements.• Construct mathematical arguments and proofs |

Scheme of Assessment

There will be one 3-hour paper marked out of 100 as follows:

Section A (Pure Mathematics – 40 marks) will consist of about 5 questions of different lengths and marks based on the Pure Mathematics section of the syllabus.

Section B (Statistics – 60 marks) will consist of about 6 – 8 questions of different lengths and marks based on the Statistics section of the syllabus.

There will be at least two questions, with at least one in each section, on application of Mathematics in real-world contexts, including those from business and the social sciences. Each question will carry at least 12 marks and may require concepts and skills from more than one topic.

Candidates will be expected to answer all questions.

H2 Mathematics **Subject Code: 9758**

H2 Mathematics is designed to prepare students for a range of university courses, including mathematics, sciences, engineering and related courses, where a good foundation in mathematics is required. It develops mathematical thinking and reasoning skills that are essential for further learning of mathematics. Through applications of mathematics, students also develop an appreciation of mathematics and its connections to other disciplines as well as to the real world.

Course Objectives

To enable students to:

1. acquire mathematical concepts and skills to prepare for their tertiary studies in mathematics, sciences, engineering and other related disciplines;
2. develop thinking, reasoning, communication, and modelling skills through a mathematical approach to problem-solving;
3. connect ideas within mathematics and apply mathematics in the contexts of sciences, engineering and other related disciplines; and
4. experience and appreciate the nature and beauty of mathematics and its value in life and other disciplines.

Use of Graphing Calculators (GC)

The use of GC will be expected. The examination papers will be set with the assumption that candidates will have access to a GC.

H2 Math Syllabus Outline

S/N	Topic	Sub-Topics
Pure Mathematics		
1	Functions & Graphs	1.1 Functions 1.2 Graphs & Transformations 1.3 Equations & Inequalities
2	Sequences & Series	2.1 Sequences & Series
3	Vectors	3.1 Basic properties of vectors in two- & three-dimensions 3.2 Scalar & vector products in vectors 3.3 Three-dimensional vector geometry
4	Introduction to Complex Numbers	4.1 Complex numbers expressed in cartesian form and Argand diagrams
5	Calculus	5.1 Differentiation 5.2 Maclaurin's Series 5.3 Integration Techniques 5.4 Definite Integrals 5.5 Differential Equations
Probability & Statistics		
6	Probability & Statistics	6.1 Probability 6.2 Discrete random variables 6.3 Normal distribution 6.4 Sampling 6.5 Hypothesis testing 6.6 Correlation & Linear regression

Course Requirements

Knowledge of the content of the O-Level Mathematics and Additional Mathematics is assumed.

Students who wish to offer H2 Math without O level Additional Mathematics are required to sit for a test on the relevant O level Assumed Knowledge. The objective of the test is to help students to make an informed decision on A level subject combination.

Content from O-Level Additional Mathematics	
CALCULUS	
C7	<p>Differentiation and integration</p> <ul style="list-style-type: none">• derivative of $f(x)$ as the gradient of the tangent to the graph of $y = f(x)$ at a point• derivative as rate of change• derivatives of x^n for any rational n, $\sin x$, $\cos x$, $\tan x$, e^x and $\ln x$, together with constant multiples, sums and differences• derivatives of composite functions• derivatives of products and quotients of functions• increasing and decreasing functions• stationary points (maximum and minimum turning points and points of inflection)• use of second derivative test to discriminate between maxima and minima• connected rates of change• maxima and minima problems• integration as the reverse of differentiation• integration of x^n for any rational n, e^x, $\sin x$, $\cos x$, $\sec^2 x$ and their constant multiples, sums and differences• integration of $(ax + b)^n$ for any rational n, $\sin(ax + b)$, $\cos(ax + b)$ and $e^{ax + b}$

Assessment Objectives (AO)

The assessment will test candidates' abilities to:

- AO1 Use mathematical techniques and procedures
- Recall facts, formulas and notation and use them directly.
 - Read and use information from tables, graphs, diagrams and texts.
 - Carry out straightforward mathematical procedures.
- AO2 Formulate and solve problems including those in real-world contexts
- Select relevant mathematical concept or strategy to apply.
 - Formulate problems into mathematical expressions or models.
 - Integrate mathematical concepts to solve mathematical problems.
 - Translate between equivalent forms of mathematical expressions or statements.
 - Interpret results in the context of a given problem.
- AO3 Reason and communicate mathematically
- Explain the choice of mathematical models or strategies.
 - Make deductions, inferences and generalisations
 - Formulate conjectures and justify mathematical statements.
 - Construct mathematical arguments and proofs.

Scheme of Examination Papers:

For the examination in H2 Mathematics, there will be two 3-hour papers, each carrying 50% of the total mark, and each marked out of 100, as follows:

PAPER 1 (3 hours)

A paper consisting of 10 to 12 questions of different lengths and marks based on the Pure Mathematics section of the syllabus. There will be one question on application of Mathematics in real-world contexts, including those from sciences and engineering. This question will carry at least 12 marks and may require concepts and skills from more than one topic. Candidates will be expected to answer **all** questions.

PAPER 2 (3 hours)

A paper consisting of two sections, Sections A and B.

Section A (Pure Mathematics – 40 marks) will consist of 4 to 5 questions of different lengths and marks based on the Pure Mathematics section of the syllabus.

Section B (Probability and Statistics – 60 marks) will consist of 6 to 8 questions of different lengths and marks based on the Probability and Statistics section of the syllabus.

There will be one question in Section B on the application of Mathematics in real-world contexts, including those from sciences and engineering. This question will carry at least 12 marks and may require concepts and skills from more than one topic. Candidates will be expected to answer **all** questions.

Possible list of H2 Mathematics applications and contexts:

Applications and contexts	Some possible topics involved
Kinematics and dynamics (e.g. free fall, projectile motion, collisions)	Functions; Calculus; Vectors
Optimisation problems (e.g. maximising strength, minimising surface area)	Inequalities; System of linear equations; Calculus
Electrical circuits	Complex numbers; Calculus
Population growth, radioactive decay, heating and cooling problems	Differential equations
Financial maths (e.g. banking, insurance)	Sequences and series; Probability; Sampling distributions
Standardised testing	Normal distribution; Probability
Market research (e.g. consumer preferences, product claims)	Sampling distributions; Hypothesis testing; Correlation and regression
Clinical research (e.g. correlation studies)	Sampling distributions; Hypothesis testing; Correlation and regression

H2 Further Mathematics

Subject Code: 9649

H2 Further Mathematics is to be offered with H2 Mathematics as a double mathematics course.

H2 Further Mathematics is designed for students who are mathematically inclined and who intend to specialize in mathematics, sciences or engineering or disciplines with higher demand on mathematical skills. It extends and expands on the range of mathematics and statistics topics in H2 Mathematics and provides these students with a head start in learning a wider range of mathematical methods and tools that are useful for solving more complex problems in mathematics and statistics.

Course objectives

To enable students to:

1. acquire a **wider range** of mathematical concepts and **stronger** set of mathematical skills for their tertiary studies in **mathematics, sciences, engineering** and other related disciplines with a **heavier** demand on mathematics;
2. develop thinking, reasoning, communication and **modelling** skills through a mathematical approach to problem-solving;
3. **connect** ideas within mathematics and apply mathematics in the context of sciences, engineering and other related disciplines;
4. experience and appreciate the **rigour** and **abstraction** in the discipline.

Use of Graphic Calculators (GC)

The use of GC will be expected. The examination papers will be set with the assumption that candidates will have access to a GC.

Course Requirements

Knowledge of the content of the ‘O’-Level Mathematics and Additional Mathematics are assumed. The **minimum grades of “A1” in ‘O’-Level Mathematics and Additional Mathematics** are required for students who intend to offer H2 Further Mathematics.

Interested applicants are required to sit for a proficiency test.

Syllabus Outline

Topic	Sub-topics
Pure Mathematics	
1. Algebra and Calculus	1.1 Complex Numbers 1.2 Polar Coordinates 1.3 Applications of definite Integrals 1.4 Functions of two variables 1.5 Differential Equations
2. Discrete Mathematics, Matrices and Numerical Methods	2.1 Recurrence Relations 2.2 Matrices and Linear Spaces 2.3 Numerical Methods
3. Probability and Statistics	3.1 Discrete random variables 3.2 Continuous random variables 3.3 Hypothesis testing and Confidence intervals 3.4 non-parametric tests

Assessment Objectives (AO)

The assessment will test candidates' abilities to:

- AO1 Use mathematical techniques and procedures
- Recall facts, formulas and notation and use them directly.
 - Read and use information from tables, graphs, diagrams and texts.
 - Carry out straightforward mathematical procedures.
- AO2 Formulate and solve problems including those in real-world contexts
- Select relevant mathematical concept or strategy to apply.
 - Formulate problems into mathematical expressions or models.
 - Integrate mathematical concepts to solve mathematical problems.
 - Translate between equivalent forms of mathematical expressions or statements.
 - Interpret results in the context of a given problem.
- AO3 Reason and communicate mathematically
- Explain the choice of mathematical models or strategies.
 - Make deductions, inferences and generalisations
 - Formulate conjectures and justify mathematical statements.
 - Construct mathematical arguments and proofs.

Scheme of Examination Papers:

For the examination in H2 Further Mathematics, there will be two 3-hour papers, each carrying 50% of the total mark, and each marked out of 100, as follows:

PAPER 1 (3 hours)

A paper consisting of 10 to 12 questions of different lengths and marks based on the Pure Mathematics section of the syllabus.

There will be one question on application of Mathematics in real-world contexts, including those from sciences and engineering. This question will carry at least 12 marks and may require concepts and skills from more than one topic. Candidates will be expected to answer **all** questions.

PAPER 2 (3 hours)

A paper consisting of two sections, Sections A and B.

Section A (Pure Mathematics – 50 marks) will consist of 5 to 6 questions of different lengths and marks based on the Pure Mathematics section (i.e., Algebra and Calculus, Discrete Mathematics, Matrices and Numerical Methods) of the syllabus.

Section B (Probability and Statistics – 50 marks) will consist of 5 to 6 questions of different lengths and marks based on the Probability and Statistics section of the syllabus.

There will be one question in Section B on the application of Mathematics in real-world contexts, including those from sciences and engineering. This question will carry at least 12 marks and may require concepts and skills from more than one topic. Candidates will be expected to answer **all** questions.

H3 Mathematics **Subject Code: 9820**

H3 Mathematics provides students, who intend to pursue mathematics at the university, with an insight into the practice of a mathematician. It equips students with the knowledge and skills to understand and write mathematical statements, proofs and solutions, and the techniques and results that come in helpful in their work. Students will develop these competencies through proving mathematical results and solving *non-routine* mathematical problems in the course of the learning.

Course Objectives

To enable students to:

1. acquire advanced problem-solving skills and methods of proof by learning useful mathematical results and techniques to solve non-routine problems and prove statements
2. develop rigour in mathematical argument and precision in the use of mathematical language through the writing and evaluation of mathematical proofs and solutions
3. experience and appreciate the practice, value and rigour of mathematics as a discipline.

Use of Graphing Calculators (GC)

The use of GC will be expected. The examination papers will be set with the assumption that candidates will have access to GC.

Course Requirements

Knowledge of the content of **H2 Mathematics** is assumed. H3 Mathematics is for students who have a strong aptitude for Mathematics and are passionate about learning of Mathematics. **A distinction grade in H2 Mathematics (preferably in the 90th percentile) and at least a grade “B” for all other H2 subjects at the JC1 Promotional Examinations are required for students who intend to offer H3 Mathematics.**

H3 Mathematics Syllabus:

	Topics/ Sub-topics	Content	Remarks
1	Mathematical Statements	<p>Include:</p> <ul style="list-style-type: none">• Definition, Proposition and Theorem• Conditionals<ul style="list-style-type: none">◦ if ... then ...◦ ... if and only if ...◦ Necessary◦ Sufficient• Quantifiers such as<ul style="list-style-type: none">◦ There exists (a unique) ...◦ For all ...• Logical connectives<ul style="list-style-type: none">◦ “and”, “or”, “not”, “implies”• Converse• Inverse• Contrapositive• Negation	Students should be able to read, understand and write mathematical statements. Students will learn these in the process of solving problems and through exposure to mathematical readings. While the content is listed as a topic in itself, we recommend that it is integrated into the teaching of the other topics in the syllabus (rather than taught as an independent topic).
2	Mathematical Proofs and Reasoning Principles	<p>Include:</p> <ul style="list-style-type: none">• Direct proof• Disproof by counterexample• Proof by contradiction• Proof of existence• Proof of uniqueness• Proof by construction• Proof by cases• Proof by mathematical induction• Pigeonhole principle• Symmetry principle• Combinatorial arguments and proofs	Students should be familiar with different methods of proof and reasoning principles and use them appropriately in the process of solving problems. While the content is listed as a topic in itself, we recommend that it is integrated into the teaching of the other topics in the syllabus (rather than taught as an independent topic).

	Topics/ Sub-topics	Content	Remarks
3	Problem Solving Heuristics	Include: <ul style="list-style-type: none"> • Working backwards • Uncovering pattern and structure • Solving a simpler/similar problem • Considering cases • Restating the problem (e.g. contrapositive) 	Students will learn these in the process of solving problems. While the content is listed as a topic in itself, we recommend that it is integrated into the teaching of the other topics in the syllabus (rather than taught as an independent topic).
4	Assumed Knowledge from H2 Math and Additional Content	Include: <ul style="list-style-type: none"> • Functions and Graphs concepts from H2 Math • Sequences and Series concepts from H2 Math, with the following addition: <ul style="list-style-type: none"> ◦ Summation of series by the method of differences • Complex Numbers concepts from H2 Math • Calculus concepts from H2 Math, with the following addition: <ul style="list-style-type: none"> ◦ Reduction formulae ◦ Improper integrals • Probability (including counting) concepts from H2 Math, with the following addition: <ul style="list-style-type: none"> ◦ Bijection principle (include the case of distributing indistinguishable objects into distinguishable boxes) ◦ Inclusion-Exclusion principle • Additional inequalities <ul style="list-style-type: none"> ◦ AM-GM inequality ◦ Cauchy-Schwarz inequality ◦ Triangle inequality • Introduction to limits <ul style="list-style-type: none"> ◦ Comparing polynomial, exponential, and logarithmic growth rates ◦ Operations involving limits e.g. limit of a sum is the sum of the limits, if exist • Concepts of congruence and modular arithmetic 	Students are expected to solve non-routine problems using knowledge of Functions, Graphs, Sequences, Series, Complex Numbers, Calculus and Probability (including Counting) from H2 Mathematics. These problems may involve working with inequalities, limits, counting and integers. The sub-bullets represent the additional knowledge that students may need to solve such problems.

	Topics/ Sub-topics	Content	Remarks
5	Mathematical Investigation and Reading Mathematical Texts	Include: <ul style="list-style-type: none"> • Formulating a conjecture • Extension, generalisation, special cases • Complete or critique a solution 	Students should have opportunities to study a mathematical situation or problem, develop and state a conjecture, or extend a problem etc. or complete or critique a solution. This topic is intended to reflect the emphasis on providing opportunities for students to carry out investigations and read mathematical texts, which are useful skills, especially for those who are interested to pursue maths or courses where maths plays a substantial part at the university.

Assessment Objectives (AO)

The assessment will test candidates' abilities to:

AO1

- Use mathematical techniques and procedures
- Recall facts, formulas and notation and use them directly.
- Read and use information from tables, graphs, diagrams and texts.
- Carry out straightforward mathematical procedures.

AO2

- Formulate and solve problems including those in real-world contexts
- Select relevant mathematical concept or strategy to apply.
- Formulate problems into mathematical expressions or models.
- Integrate mathematical concepts to solve mathematical problems.
- Translate between equivalent forms of mathematical expressions or statements.

- Interpret results in the context of a given problem.
- AO3
- Reason and communicate mathematically
 - Explain the choice of mathematical models or strategies.
 - Make deductions, inferences and generalisations
 - Formulate conjectures and justify mathematical statements.
 - Construct mathematical arguments and proofs.

Scheme of Examination Paper:

For the examination in H3 Mathematics, there will be one 3-hour paper marked out of 80. The paper will consist of 6 questions of different lengths.

Questions 1 to 5 will be worth 10 to 14 marks each.

Question 6 will be worth 16 to 20 marks and will require students to read and respond to a short mathematical text.

Candidates will be expected to answer **all** questions.

H1 Biology

Subject Code: 8876

Course Requirement

Students intending to read H1 Biology should have knowledge and understanding of Biology at GCE O-Level, either as a single subject or as part of a balanced science course.

Outline of Syllabus

The syllabus is divided into four core ideas and one extension topic.

1. The four core ideas are:
 1. The Cell and Biomolecules of Life
 2. Genetics and Inheritance
 3. Energetics
 4. Biological Evolution
2. The extension topic is:
 1. Impact of Climate Change on Animals and Plants

Scheme of Assessment

Paper	Type of Paper	Duration	Marks	Weighting
1	Multiple Choice	1 h	30	33 %
2	Structured and free-response questions	2 h	60	67 %

Paper 1

This paper will consist of 30 compulsory multiple-choice questions.

Paper 2

Section A (45 marks) will consist of a variable number of structured questions, all compulsory, including at least one data-based or comprehension-type question. The databased question(s) will constitute 10-15 marks of the paper.

Section B (15 marks) will consist of two free-response questions, from which candidates will choose one. The quality of scientific argumentation and written communication will be given a percentage of the marks available.

H2 Biology

Subject Code: 9477

Course Requirement

Candidates will be assumed to have knowledge and understanding of GCE O-Level Biology, as a single or as part of a balanced Science course.

Outline of Syllabus

The syllabus is divided into four core ideas and two extension topics.

Four Core Ideas:	Two Extension Topics:
1. The Cell and Biomolecules of Life 2. Genetics and Inheritance 3. Energy and Equilibrium 4. Biological Evolution	1. Infectious Diseases 2. Impact of Climate Change on Animals and Plants

Scheme of Assessment

Paper	Type of Paper	Duration	Marks	Weighting (%)
1	Multiple Choice	1 h	30	15
2	Structured Questions	2 h	90	30
3	Long Structured and Free-response Questions	2 h	75	35
4	Practical Paper	2 h 30 min	50	20

Paper 1

This paper will consist of 30 compulsory multiple-choice questions.

Paper 2

A variable number of compulsory structured questions including data-based or comprehensive-type questions.

Paper 3

Section A comprises two or more compulsory **long** structured questions. There will be one or more stimulus materials which may be taken or adapted from a source such as a scientific journal or book which may not necessarily relate directly to the content of the syllabus. Questions may require candidates to explain terms used in the passage, analyse data, justify decisions, perform calculations and draw conclusions based on information in the stimulus material.

Section B comprises two free-response questions, from which candidates will **choose one**. The quality of scientific argumentation and written communication will be given a percentage of the marks available.

Paper 4 (Practical Paper)

This paper will assess the following skill areas:

- Planning (P)
- Manipulation, measurement and observation (MMO)
- Presentation of data and observations (PDO)
- Analysis, conclusions and evaluation (ACE)

H3 Biology **Subject Code: 9816**

Introduction

The H3 Biology syllabus has been designed to build on and extend the knowledge, understanding and skills acquired from the H2 Biology (9744) syllabus. It caters to students of strong ability and keen interest in biology and is designed with a strong emphasis on independent and self-directed learning. Students should simultaneously offer H2 Biology. The H3 Biology syllabus is meant to provide greater depth and rigour in the subject for students pursuing further studies in biology-related fields.

Outline of Syllabus

The syllabus is divided into four core ideas and two extension topics.

Four Core Ideas:	Two Extension Topics:
<ul style="list-style-type: none">1. The Cell and Biomolecules of Life<ul style="list-style-type: none">• The cell theory• The fluid mosaic model• Cell differentiation• Protein modification2. Genetics and Inheritance<ul style="list-style-type: none">• Procedures for cloning genes• The structure and role of ribozymes• Techniques in genetic engineering• Epigenetics3. Energy and Equilibrium<ul style="list-style-type: none">• C₃, C₄, CAM plants and algae• Nervous system • Quorum sensing• Control and feedback mechanisms• Communication systems in organisms4. Biological Evolution<ul style="list-style-type: none">• Adaptive radiation and ring species• Polyploidy, hybridisation and introgression in evolution• Mitochondrial DNA and Y-chromosomal Adam	<ul style="list-style-type: none">1. Infectious Diseases<ul style="list-style-type: none">• The immune system – adaptive and innate• Importance of microbiota to human health • Factors that could result in a pandemic2. Impact of Climate Change on Animals and Plants<ul style="list-style-type: none">• Effects of climate change on the environment, plants and animals• Actions to mitigate climate change• How animal and plant species respond to climate change

Scheme of Assessment (2h 30 min, 75 marks)

This paper will consist of two sections, as follows:

Section A (50 marks) will comprise one compulsory stimulus-based question (25 marks) that may consist of a variable number of structured subparts; and one compulsory free-response question (25 marks), with no subparts. For the free-response question, the quality of scientific argumentation and written communication will be given a percentage of the marks available.

Section B (25 marks) will comprise two free-response questions, from which candidates will **choose one**. The quality of scientific argumentation and written communication will be given a percentage of the marks available.

Questions in both sections may be set on any area of the H3 and H2 syllabuses and may require candidates to use material from different areas of the syllabuses within a single answer. Marks will also be available for evidence shown for relevant reading around the subject.

H1 Chemistry

Subject Code: 8873

Course Requirement

Candidates will be assumed to have knowledge and understanding of Chemistry at GCE O-Level as a single subject or as part of a balanced science course.

Course Content

Core/Extension	Topics
Core Idea 1: Matter	1. Atomic Structure
Core Idea 2: Structure and Properties	1. Chemical Bonding 2. Theories of Acids and Bases 3. The Periodic Table
Core Idea 3: Transformation	1. The Mole Concept and Stoichiometry 2. Chemical Energetics: Thermochemistry 3. Reaction Kinetics 4. Chemical Equilibria
Extension: Materials	1. Polymers and Organic Chemistry

Scheme of Assessment

Paper	Type of Paper	Duration	Weighting	Remarks
1	Multiple choice	1 h	33 %	30 questions (30 marks)
2.	Structured	2 h	67 %	<u>Sect A:</u> A variable number of structured questions including data-based questions. (60 marks) <u>Sect B:</u> 2 choose 1 (20 marks)

H2 Chemistry

Subject Code: (9476)

Course Requirement

Candidates will be assumed to have knowledge and understanding of Chemistry at GCE O-Level as a single subject or part of a balanced science course.

Course Content

Core/Extension	Topics
Core Idea 1: Matter	1. Atomic Structure
Core Idea 2: Structure and Properties	1. Chemical Bonding 2. The Gaseous State 3. Theories of Acids and Bases 4. The Periodic Table
Core Idea 3: Transformation	1. The Mole Concept and Stoichiometry 2. Chemical Energetics: Thermochemistry and Thermodynamics (Gibbs Free Energy and Entropy) 3. Reaction Kinetics 4. Chemical Equilibria
Extension	1. Chemistry of Aqueous Solutions <ul style="list-style-type: none"> - Acid-base Equilibria - Solubility Equilibria 2. Organic Chemistry <ul style="list-style-type: none"> - Introduction to Organic Chemistry - Isomerism - Organic Reactions and Mechanism - Hydrocarbons - Halogen derivatives - Hydroxy compounds - Carbonyl compounds - Carboxylic acids and derivatives - Nitrogen compounds - Polymers 3. Electrochemistry 4. An Introduction to the Chemistry of Transition Elements

Scheme of Assessment

Paper	Type of Paper	Duration	Weighting	Remarks
1	Multiple choice	1 h	15 %	30 questions (30 marks)
2.	Structured	2 h	30 %	A variable number of structured questions with one or two data-based (75 marks)
3	Free response questions	2 h	35 %	<u>Sect A:</u> 3-4 compulsory free response questions (55 marks) <u>Sect B:</u> 2 choose 1 (20 marks)
4	Practical	2 h 30 min	20 %	Skills assessed are <ul style="list-style-type: none"> - Planning (P)

				<ul style="list-style-type: none"> - Manipulation, measurement and observation. (MMO) - Presentation of data and observations. (PDO) - Analysis, conclusions and evaluation. (ACE) <p>(50 marks)</p> <p>Note:</p> <p><i>The assessment of (P): 4%</i> <i>The assessment of (MMO, PDO, ACE): 16%</i></p>
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H3 Chemistry

Subject Code: 9813

Course Requirement

H3 Chemistry is offered to JC2 students of strong ability and keen interest in chemistry and is designed with an emphasis on independent and self-directed learning. Candidates should simultaneously offer H2 Chemistry and will be assumed to have knowledge and understanding of Chemistry at H2 level.

Course Content

Additional content in H3 Chemistry	Topics
1. Spectroscopic Techniques	1.1 Basic principles of Spectroscopy 1.2 Ultraviolet/visible Spectroscopy 1.3 Infra-red (IR) Spectroscopy 1.4 Nuclear Magnetic Resonance (NMR) Spectroscopy 1.5 Mass Spectrometry
2. Molecular Stereochemistry	2.1 Molecular Stereochemistry
3. Further Organic Mechanisms	3.1 Basic Physical Organic Chemistry 3.2 Nucleophilic Substitution 3.3 Elimination

Scheme of Assessment

Candidates will take a 2 h 30 min paper (100 marks total). This paper consists of 2 sections and will include questions that require candidates to integrate knowledge and understanding from different sections in the syllabus.

Section A	60 marks	This section will consist of a variable number of compulsory free response questions including 1 or 2 stimulus-based questions. The stimulus-based question(s) constitute(s) 15-20 marks for this paper
Section B	40 marks	Candidates will be required to answer 2 out of 3 free response questions. Each question will carry 20 marks.

H1 Physics

Subject Code: 8876

Course Requirements

Students intending to read H1 Physics should have knowledge and understanding of Physics at GCE O-Level, either as a single subject or as part of a balanced science course. They should also be familiar with calculus, vectors, trigonometric relations and logarithmic expressions.

Course Content

The topics covered in H1 Physics are as follows:

Sections	Topics
I. Foundations of Physics	1. Quantities & Measurement 2. Forces & Moments 3. Motion & Forces 4. Energy & Fields
II. Mechanics	5. Projectile Motion 6. Collisions 7. Circular Motion & Gravitation
III. Electricity & Magnetism	8. Currents 9. Circuits 10. Electromagnetism
IV. Modern Physics	11. Nuclear Physics

Scheme of Assessment

Paper	Type of Paper	Duration	Weighting (%)	Marks
1	Multiple Choice	1 h	33	30
2	Structured Questions	2 h	67	80

H2 Physics **Subject Code: 9478**

Course Requirements

Candidates will be assumed to have knowledge and understanding of GCE O-Level Physics, as a single subject or as part of a balanced Science course. They should also be familiar with calculus, vectors, trigonometric relations and logarithmic expressions.

Course Content

The topics covered in H2 Physics are as follows:

Sections	Topics
I. Foundations of Physics	1. Quantities & Measurement 2. Forces & Moments 3. Motion & Forces 4. Energy & Fields
II. Mechanics	5. Projectile Motion 6. Collisions 7. Circular Motion 8. Gravitational Fields 9. Oscillations
III. Waves	10. Wave Motion 11. Superposition
IV. Thermal Physics	12. Temperature & Ideal Gases 13. Thermodynamic Systems
V. Electricity & Magnetism	14. Electric Fields 15. Currents 16. Circuits 17. Electromagnetic Forces 18. Electromagnetic Induction
VI. Modern Physics	19. Quantum Physics 20. Nuclear Physics

Scheme of Assessment

Paper	Type of Paper	Duration	Weighting (%)	Marks
1	Multiple Choice	1 h	15	30
2	Structured Questions	2 h	30	75
3	Long Structured Questions	2 h	35	75
4	Practical	2 h 30 min	20	55

H3 Physics **Subject Code: 9816**

Introduction

The H3 Physics syllabus has been designed to build on and extend the knowledge, understanding and skills acquired from the H2 Physics (9478) syllabus. It caters to students of strong ability and keen interest in physics and is designed with a strong emphasis on independent and self-directed learning. Students should simultaneously offer H2 Physics. The H3 Physics syllabus is meant to provide greater depth and rigour in the subject for students pursuing further studies in physics-related fields.

Course Content

The topics covered in H3 Physics are as follows:

Sections	Topics
A. Foundations of Physics	1. Frames of Reference
B. Mechanics	2. Rotational Motion
C. Electricity & Magnetism	3. Electric & Magnetic Fields 4. RLC Circuits
D. Modern Physics	5. Special Relativity

Scheme of Assessment

There is one paper of 3 hours duration for this subject. This paper will consist of two sections and will include questions which require candidates to integrate knowledge and understanding from different areas of the syllabus.

Section A (60 marks)

This section will consist of a variable number of compulsory structured questions. The last of these will be a stimulus-based question which will constitute 15-20 marks.

Section B (40 marks)

This section will consist of a choice of two from three 20-mark longer structured questions. Questions will be set in which knowledge of differential and/or integral calculus will be advantageous.

H2 Art

Subject Code: 9357

Course Objectives

The A-Level syllabuses aim to develop in each student:

1. An inquiring mind and the confidence to express artistic intent through visual language;
2. Visual literacy and critical thinking skills;
3. An active imagination and a spirit of experimentation and adaptation to discover creative possibilities;
4. Artistic agency and capacity for reflective and collaborative practice; and
5. An understanding of and readiness to embrace diverse perspectives in art from a range of local and global contexts.

Course Content

Candidates taking the H2 Level Art will be required to offer

Paper 1: Art Discourse and Paper 2: Studio Practice Portfolio

Paper 1: Art Discourse

- Students will gain an awareness of how an artwork is a meeting of form and content, embodying the relationship between its visual characteristics and the intention of its author.
- Students will understand how artists respond to personal, social, and cultural contexts, in addition to creating for self-expression.
- Students will learn to observe, interpret, and evaluate how artists manipulate visual characteristics in response to different contextual frames, clarifying their own approaches and developing a sense of agency in their own artmaking.

The syllabus content for Art Discourse presents 6 topics to cultivate students' sensitivity and developing their skills in critically analysing works of art: ***Representation, Abstraction, Materials, Technology, People in Art, Art in Society.***

For each topic, students will study a wide range of local, regional and global artists with modern and contemporary practices across a variety of art forms.

Paper 2: Studio Practice Portfolio

While engaging with the learning content in H2 Art, students will:

- Appreciate that a diverse range of media and methods are involved in art making.
- Discover the visual language, conventions and strategies unique to each art form.
- Understand how others have approached the complexities of art making and how a body of work communicates meaning and purpose for different audiences.
- Use the above to inspire their own exploration and experimentation in art making and thereby uncover their own interests and strengths to direct their own practice.

The syllabus content for Studio Practice introduces students to the following Art Forms and Media, for their exploration, development, and communication of artistic intent:

Compulsory foundational modules	<ol style="list-style-type: none">1. Drawing in various mediums2. Digital imaging
Elective art forms	<ul style="list-style-type: none">• Fine Art: Painting, printmaking, photography, sculpture, installation, etc.

	<ul style="list-style-type: none"> • Design: Illustration, visual communications, fashion and textiles, product design, graphic design, architecture, etc. • Time-based: Video, film, performance art, animation, etc.
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In line with the use of different Art Forms and Media, students will be sensitised to the visual language, conventions, and strategies employed to guide and inform their making and viewing of art. Through learning **Visual Qualities, Visual Strategies, and Design Concepts**, students will:

- Be familiar with art vocabulary in their study of artworks.
- Be able to identify visual language employed in artworks and their corresponding artistic intentions.
- Be aware of how artists have purposefully used various tools and technology to convey
- artistic intentions in different art forms.

Other learning experiences

To shape students' habits, how they learn and think in Art, students will be immersed in the following learning experiences, weaved into lesson content and curriculum for Papers 1 and 2:

1. Art Conversations and Critique
2. Art Writing
3. Art Journalling
4. Building Portfolios

Scheme of Assessment

Paper	Description	Weighting
Paper 1: Art Discourse (Compulsory)	3-Hour Written Paper: <ul style="list-style-type: none"> • Source-based long answer questions • Essays 	40%
Paper 2: Studio Practice Portfolio (Compulsory)	<ul style="list-style-type: none"> • Portfolio collection of artworks, beginning from JC1 Term 1 • 7 artworks produced alongside and/or after the Portfolio, beginning from JC1 Term 1 • Written report (~1500 word) 	60%

H1 & H2 Economics

Subject Codes: 8843 (H1) and 9570 (H2)

Course Objectives for H1 (8843) and H2 (9570) Economics:

The H1 (8843) and H2 (9570) Economics syllabuses provide the basis for broad understanding of Economics. The syllabuses aim to develop in candidates:

1. an understanding of fundamental economic concepts, theories and principles, and of the tools and methods of analysis used by economists;
2. the ability to use the tools and methods of economic reasoning to explain and analyse economic issues, and to evaluate perspectives and decisions of economic agents;
3. the habit of reading critically, from a variety of sources, to gain information about the changing economic activities and policies at national and international levels;
4. the ability to use evidence in making well-reasoned economic arguments to arrive at rational and considered decisions.

Course Content H1 Economics (8843)

- **Theme 1: The Central Economic Problem**
- **Theme 2: Markets**
- **Theme 3: The National Economy**

Assessment Format for H1 Economics (8843):

Students sit for one written paper, comprising two compulsory case studies

Duration: 3 hrs	
Paper 1 (Case-Studies) (80 marks; weighted 100%)	Case Study Questions Candidates are to answer all questions for each case study. Each question carries <u>40 marks</u> .

Course Content for H2 Economics (9570)

- **Theme 1: The Central Economic Problem**
- **Theme 2: Markets**
- **Theme 3: The National and International Economy**

Assessment Format for H2 Economics (9570):

Students sit for two written papers, comprising case study and essay questions.

Total time: 4 hrs 30mins	
Paper 1 2 hrs 30mins (40%)	Case Study Questions Candidates are to answer 2 compulsory case study questions. Each question carries <u>30 marks</u> .
Paper 2 2hrs 30mins (60%)	Essay Questions Section A comprises 3 essay questions focusing <i>mainly</i> on <u>microeconomics</u> and Section B comprises another 3 essay questions focusing <i>mainly</i> on <u>macroeconomics</u> . Candidates are to answer a total of 3 essay questions: One each from Section A & Section B and the third question can be chosen from either section. Each question carries <u>25 marks</u> .

H1 Geography

Subject Code: 8834

Aims and Learning Outcomes:

Knowledge

The syllabus requires students to develop an understanding of:

- the uniqueness of places;
- the dynamic and complex interactions and interdependence between natural environments and human environments at various scales;
- the evolution of landscapes and development of issues over time;
- the processes that shape spaces, places and the environment at various scales;
- the connections, trends and patterns in different parts of Asia and the rest of the world;
- a range of contemporary issues in different parts of Asia and the rest of the world through geographical perspectives; and
- knowledge from different subfields of geography to understand different approaches to solve real-world problems and achieve sustainable development.

Skills

The syllabus seeks to equip students with the ability to:

- consider evidence and different viewpoints to develop logical arguments and explanations;
- analyse, evaluate and reflect on information from a geographical perspective to make informed and sound decisions;
- construct understanding through inquiry using different data collection and analysis methods; and
- use and evaluate data representation techniques to communicate findings.

Values

The syllabus seeks to encourage students to:

- be inspired by the splendour of natural environments and human ingenuity;
- care for delicate ecosystems and understand the importance of environmentally sustainable lifestyles;
- develop as global citizens, seek harmony and respect others in a culturally diverse world; and
- contribute responsibly towards the building of a robust and inclusive society.

Syllabus Content

H1 Geography is designed around two main clusters of content.

Cluster 1 Sustainable Future and Climate Change

- Topic 1.1: Cities in a Sustainable Future
 - Sustainable Urban Development
 - Sustainable Cities
 - Liveable Cities
- Topic 1.2: The Future with Climate Change
 - The Science of Climate Change
 - Possible Effects of Climate Change
 - Responses to Climate Change

Cluster 2 Fieldwork

- Community response to climate change
- Needs analysis of the elderly living in an urban neighbourhood

Examination Format

Duration: 3 hours (100%)		
Section A (30%)	One compulsory structured question that assesses students' mastery of Cluster 2: Fieldwork.	The question carries 30 marks and comprises no more than 6 sub-parts. It includes a 10-mark evaluative sub-part.
Section B (44%)	Two compulsory structured questions that assess students' mastery of Cluster 1: Sustainable Future and Climate Change.	Each question carries 22 marks and comprises no more than 5 sub-parts. Each question may be on a specific topic or a combination of topics within Cluster 1.
Section C (26%)	Three evaluative questions on Cluster 1 will be set, but only TWO need to be answered. Each question carries 13 marks.	

H2 Geography

Subject Code: 9173

Aims and Learning Outcomes

Please refer to the course objectives listed in H1 Geography.

Course Content

H2 Geography examines four clusters of content that would allow students to study Geography holistically as an integrated subject. It combines physical and human geography, exposing students to up-to-date topics within the discipline.

Cluster 1 Development, Economy and Environment

- Topic 1.1: Environment and Resources
 - Understanding Sustainable Development
 - Environment and Resources
 - Managing Resources
- Topic 1.2: Development and the Global Economy
 - Development
 - Geography of the Global Economy and Transnational Corporations (TNCs)
 - Relative Influence of Actors in Shaping the Global Economy

Cluster 2 Tropical Environments

- Topic 2.1: Tropical Climates and Drainage Basins
 - Tropical Climates
 - Drainage Basin Hydrology
 - Floods in the Humid Tropics
- Topic 2.2: Landforms in the Tropics
 - Geomorphic Processes
 - Karst Landscapes in the Humid Tropics
 - Fluvial Landforms in the Humid Tropics

Cluster 3 Sustainable Future and Climate Change

- Topic 3.1: Cities in a Sustainable Future
 - Sustainable Urban Development
 - Sustainable Cities
 - Liveable Cities
- Topic 3.2: The Future with Climate Change
 - The Science of Climate Change
 - Possible Effects of Climate Change
 - Responses to Climate Change

Cluster 4 Fieldwork

- Community response to climate change
- Needs analysis of the elderly living in an urban neighbourhood
- Fluvial flood risk and strategies to mitigate it

Examination Format

Paper 1 – 3 hours (100 m; 50%)

Section A (60 m)	Two compulsory structured question that assesses students' mastery of Clusters 1 and 2.	Each question carries 30 marks and comprises no more than 6 sub-parts. Each question may be on a specific
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		topic or a combination of topics within the cluster.
Section B (40 m)	<p>Four evaluative questions on Clusters 1 and 2 will be set, but only TWO need to be answered.</p> <ul style="list-style-type: none"> • Cluster 1 – Either Qn 3 or Qn 4 • Cluster 2 – Either Qn 5 or Qn 6 <p>Each question carries 20 marks.</p>	

Paper 2 – 3 hours (90 m; 50%)		
Section A (40 m)	One compulsory structured question that assesses students' mastery of Cluster 4: Fieldwork.	The question carries 40 marks and comprises no more than 8 sub-parts. It includes a 10-mark evaluative sub-part.
Section B (30 m)	One compulsory structured question that assesses students' mastery of Cluster 3: Sustainable Future and Climate Change.	The question carries 30 marks and comprises no more than 6 sub-parts. Each question may be on a specific topic or a combination of topics within Cluster 3.
Section C (20 m)	<p>Two evaluative questions on Cluster 3 will be set, but only ONE need to be answered.</p> <ul style="list-style-type: none"> • Cluster 3 – Either Qn 3 or Qn 4. Each question carries 20 marks. 	

H3 Geography

Subject Code: 9822

H3 Geography is intended for students who demonstrate strong aptitude, passion, and interest in Geography. It provides opportunities for students to explore geographical issues and events in greater depth and promotes an appreciation of the nature of geography as a discipline. The H3 Geography syllabus is designed to offer intellectual challenge and rigour as it expects students to think independently and develop critical inquiry. It takes the form of a taught element and a Research Essay on a topic of the student's choice. The H3 Geography syllabus builds on the competencies acquired in H2 Geography and requires students to demonstrate geographical knowledge in greater depth and breadth.

Students will submit a 3000–3500-word Research Essay based on a topic of their choice which had been approved in advance by Cambridge International Examinations. They will conduct an individual investigation in an area of geographical interest, examine a variety of evidence, and interpret and evaluate the evidence to reach informed conclusions. The Research Essay should be completed over an extended period of about 10 months between Nov/Dec in JC1 and Sept in JC2.

H1 History

Subject Code: 8838

Course Objectives

The H1 History syllabus seeks to:

1. develop in learners the dispositions to be curious about the past and open to multiple perspectives;
2. engage in historical inquiry to develop confident, self-directed, critical and reflective thinkers;
3. understand historical concepts, methods and processes to make informed judgments of the past and to better understand the present;
4. develop historical knowledge and understanding to develop local, regional and global awareness and cross-cultural skills; and
5. enhance appreciation of the past to develop a sense of identity and cultivate a concerned citizen.

Course Content

A. Compulsory Source-Based Study:

Theme I: The Development of the Cold War, 1945–1991

- The Emergence of Bipolarity after the Second World War
- Manifestations of the Global Cold War
- End of the Cold War

B. Thematic Study:

Theme II: The Cold War and East Asia, 1945–1991

- China and the Cold War (1950–1991)
- Japan and the Cold War (1952–1991)

Theme III: The Cold War and Southeast Asia, 1945–1991

- Manifestations of the Cold War in Southeast Asia
- ASEAN and the Cold War (1967–1991)
- Singapore and the Cold War (1965–1991)

Scheme of Assessment

Candidates will be required to sit for **one** written paper of which the duration is **three hours**. The paper is divided into two sections. Candidates are required to answer the compulsory source-based study in Section A and two essay questions in Section B.

The Cold War and the Modern World (1945–1991)	
Section A (40%)	<p>Theme 1: The Development of the Cold War, 1945–1991</p> <p>Candidates will answer the compulsory source-based case study set comprising two sub-questions.</p> <p>(a): Compare 2 sources (10 marks; 10%)</p> <p>(b): Test assertion using all sources (30 marks; 30%)</p>
Section B (60%)	<p>Candidates will answer:</p> <ul style="list-style-type: none">• 1 out of 2 essay questions set on Theme II: The Cold War and East Asia, 1945–1991 (30 marks; 30%)• 1 out of 2 essay questions set on Theme III: The Cold War and Southeast Asia, 1945–1991 (30 marks; 30%)

H2 History **Subject Code: 9174**

Course Objectives

Please refer to the course objectives listed in H1 History.

Course Content

Candidates must offer two papers, Papers 1 and 2.

Paper 1: The Changing International Order, 1945-2000

Theme I

Understanding the Cold War, 1945–1991:

- The Emergence of the Cold War after the Second World War
- Manifestations of the Global Cold War
- End of the Cold War

Theme II

The Development of the Global Economy, 1945-2000:

- Growth and Challenges in the Global Economy
- Transformation of East Asia (Japan and China)

Theme III

Conflict and Cooperation (1945-2000):

- Causes, Development and Management of Inter-state Conflicts: Indo-Pakistani Conflict (1945-1972) and Arab-Israeli Conflict (1945-1979)
- Causes, Development and Management of Intra-state Conflicts: Congo Crisis (1960-1965) and Bosnian War (1992-1995)

Paper 2: Developments in Southeast Asia, Independence-2000

Theme I

Forming Nation-States:

- Establishing political structures and legitimacy
- Consolidation of power
- Pursuit of national unity

Theme II

Economic Change after Independence

- Economic change in Southeast Asia
- Outcomes of economic change

Theme III

Regional Conflicts and Cooperation

- Inter-state Tensions and Cooperation
- ASEAN

Scheme of Assessment

Candidates will be required to sit for two written papers, Paper 1 and 2, of which the duration is three hours per paper. Each paper is divided into two sections. Candidates are required to answer the compulsory source-based study in Section A and two essay questions in Section B.

Paper 1: The Changing International Order, 1945-2000 (50% weighting)

Section	Item Description	Marks
A (Source-Based Study)	Theme I: Understanding the Cold War, 1945–1991 Candidates will answer the compulsory Source-Based Study question, comprising two sub-questions: a) Compare two sources (10 marks; 5%) b) Test assertion using all sources (30 marks; 15%)	40 marks (20%)
B (Essays)	Candidates will answer: <ul style="list-style-type: none"> 1 out of 2 essay questions set on Theme II: The Development of the Global Economy, 1945-2000 (30 marks; 15%). 1 out of 2 essay questions set on Theme III: Conflict and Cooperation, 1945-2000 (30 marks; 15%). 	60 marks (30%)

Paper 2: Developments in Southeast Asia, Independence-2000 (50% weighting)

Section	Item Description	Marks
A (Source-Based Study)	Theme III: Regional Conflicts and Cooperation Candidates will answer the compulsory Source-Based Study question, comprising two sub-questions: a) Compare two sources (10 marks; 5%) b) Test assertion using all sources (30 marks; 15%)	40 marks (20%)
B (Essays)	Candidates will answer: <ul style="list-style-type: none"> 1 out of 2 essay questions set on Theme II: Forming Nation-States (30 marks; 15%). 1 out of 2 essay questions set on Theme III: Economic Change after Independence (30 marks; 15%). 	60 marks (30%)

H3 History (9823)

H3 History is intended for students who demonstrate strong aptitude, passion and interest in History. It provides opportunities for students to explore historical issues and events in greater depth and promotes an appreciation of the nature of history as a discipline. The H3 History syllabus is designed to offer intellectual challenge and rigour as it expects students to think independently and develop critical inquiry. It takes the form of a taught element and a Research Essay on a topic of the student's choice. The H3 History syllabus builds on the competencies acquired in H2 History and requires students to demonstrate historical knowledge in greater depth and breadth.

Students will submit a 3000–3500-word Research Essay based on a topic of their choice which had been approved in advance by Cambridge International Examinations. They will conduct an individual investigation in an area of historical interest, examine a variety of evidence, and interpret and evaluate the evidence to reach informed conclusions. The Research Essay should be completed over an extended period of about 10 months between Nov/Dec in JC1 and Sept in JC2.

Literature in English

Subject Codes: 8841 (H1), 9539 (H2), 9805 (H3)

Course Objectives

Through the study of Literature in English, students will:

1. experience the joy of reading literature
2. appreciate diverse perspectives as well as negotiate the complexities and ambiguities in exploring universal human concerns
3. demonstrate the skills to critically analyse and evaluate literary texts
4. respond to literary texts with an understanding of genre and cultural contexts
5. communicate informed, sensitive and personal responses effectively and persuasively
6. develop a love for reading literature.

Assessment Objectives

Candidates should be able to:

1. make informed personal and critical responses to the texts, exploring connections between texts where appropriate, and account for their responses
2. demonstrate how the literary context of the text informs their understanding of the text
3. critically analyse and evaluate ways in which writers' choices of form, structure and language shape meanings
4. communicate the knowledge, understanding and insights appropriate to literary study.

Scheme of Assessment

- There is **one** compulsory paper (Paper 1) that **both H1 and H2** candidates will offer.
- There are **two** elective papers (Papers 2 or 3) available.

The College offers Paper 2 to H2 candidates.

Each paper will be three hours long. Candidates will answer three questions in each paper. Examinations are **open book**: candidates will be allowed to bring copies of their set texts into the examination room (without annotations).

Paper 1: Reading Literature (Compulsory Paper)

Paper 1 is designed to provide students with broad exposure to literary study, focusing on the three genres of writing in Literature.

It will consist of **three sections**, each centered on a particular genre.

Section A: Poetry

(H2) This will be **an unseen section** in which **two questions will be set** focusing primarily on close reading and comparison skills. These questions will require the candidate to respond to and critically compare two unseen poems. At least one of the options will feature a Singaporean poem. The candidate will answer **one question only**.

(H1) This will be **an unseen section** in which **two questions will be set** focusing primarily on close reading skills. Students will be required to respond critically to a single unseen poem. At least one of the options will feature a Singaporean poem. The candidate will answer **one question only**.

Section B: Prose and Section C: Drama

In these two sections, the student **(H1 & H2)** will study **one novel** in Section B and **one play** in Section C. **Two** questions will be set for **each text** in each section, focusing

primarily on close reading skills. One question will be an essay question and the other will be a passage-based question. The candidate will answer **one question for each text**.

Paper 2: Reading Literature featuring the English Romantic Period (1785–1832) (H2 only)

These papers are designed to allow students to build on the foundation gained in Paper 1, and to study Literature in greater depth. Candidates will study **three texts** in their chosen paper. The examination consists of three sections.

- **Section A (Unseen Prose and Drama):** Two questions will be set, primarily focusing on close reading skills. One question will feature an unseen prose passage and the other will feature an unseen drama passage. Candidates will answer **one** of two questions.
- **Section B (The English Romantic Period (1785–1832)):** Candidates will study two set texts. Two comparison questions will be set, primarily focusing on comparison and close reading skills. Candidates will answer **one** of the two questions, using the two texts.
- **Section C (Pre-20th Century Writing):** Candidates will study **one** of the set texts. Two questions will be set, primarily focusing on close reading and analysis skills. One question will be an essay question and the other will be a passage-based question. Candidates will answer **one** question on the text they have studied.

H3 Literature

This is intended for students who display an exceptional ability and interest in the study of Literature and are willing to pursue their studies to a greater depth and with greater specialisation.

H3 students will be assessed via a **research essay**, written on a topic chosen with the guidance of a teacher and the approval of CIE. This essay should be **3,000-3,500 words in length**.

In addition, the students have to produce **an evaluative commentary** on the essay of **800-1200 words in length**.

The essay should focus on an area of literary study, show evidence of extensive reading and research, adhere to an academic essay format and use conventions such as bibliography, references, and in-text citations. The essay should be completed over an extended period of 10 months in JC2.

H2 Chinese Language and Literature 华文与文学

Subject Codes: 9575/1, 9575/2 & 9575/3

- 1 本科是遵照教育部《大学先修班华文课程标准》的教学目标及教学内容而设的。修完该课程的二年级学生在高二年底参加考试。
- 2 本科试卷包括下列三个部分：
 - 试卷（一）语文卷（作文）（电子版考试） 1 小时 15 分钟 (35/17.5%)
 - 试卷（二）语文卷（语文理解与运用）（电子版考试） 1 小时 45 分钟 (65/32.5%)
 - 试卷（三）文学卷（笔答） 3 小时 (100/50%)
- 3 试卷一考查学生的语文运用能力。学生在考作文时准予使用教育部所规定的词典。
- 4 试卷二考查学生的语文运用能力，考试以电脑输入方式进行。
- 5 试卷三考查学生对文学教材的理解、欣赏和分析能力，考试以开卷形式进行，考生可携带所规定的文本进场。
- 6 出题蓝图：

试卷（一）：语文部分（写作）（35 /17.5%）

序数	考查项目	方式	范围	题数	分数比重
一	作文	开放式	抒情文、记叙文、说明文、议论文；准许学生使用教育部所规定的词典。	4 选 1	35/17.5%

试卷（二）：语文部分（语文理解与应用）（电子版考试）（65 /32.5%）

序数	考查项目	方式	范围	题数	分数比重
一	阅读理解一	开放式	-	5	32/15%
二	阅读理解二	*开放式	-	4	33/15%

*根据两个生活语料设题，如报章社论、新闻报道、通告、广告、海报、报告书、建议书、网上论坛贴文、博客文章、电邮等，其中一道试题是短评。

试卷（三）：文学部分（100/50%）

序数	考查项目	方式	范围	题数	分数比重
一	古代散文与诗词	开放式	指定文言文 5 篇	必答题	10/5%
			指定诗词 9 首（古代 6 首；现当代 3 首）	2 选 1	15/7.5%
二	现当代小说	开放式	指定短篇小说 4 篇	2 选 1	25/12.5%
三	现代戏剧	开放式	指定现代戏剧：郭宝崑戏剧	2 选 1	25/12.5%
四	文学作品赏析	开放式	课外文学作品：微型小说和现当代诗歌	2 选 1	25/12.5%

表一：语文部分的课程框架

三大主题框架		
关系	变化	选择

表二：H2 指定文学作品包括：

文言文篇目			
序号	作品	作者	备注
1	《邹忌讽齐王纳谏》	-	先秦
2	《桃花源记》	陶渊明	晋
3	《马说》	韩愈	唐
4	《纵囚论》	欧阳修	宋
5	《柳敬亭说书》	张岱	明
韵文篇目			
序号	作品	作者	备注
1	古诗十九首（其一）《行行复行行》	----	古诗
2	《行路难》（其一）	李白	唐诗
3	《旅夜书怀》	杜甫	唐诗
4	《鹊桥仙》（纤云弄巧）	秦观	宋词
5	《念奴娇》（大江东去）	苏轼	宋词
6	《声声慢》（寻寻觅觅）	李清照	宋词
7	《心跳》	闻一多	新诗
8	《苹果定律》*	南子	新诗
9	《爱的辩证》（一题两式）	洛夫	新诗
现当代小说			
序号	作品	作者	备注
1	《药》	鲁迅	短篇小说
2	《一把青》	白先勇	短篇小说
3	《本次列车终点》	王安忆	短篇小说
4	《不存在的情人》*	英培安	短篇小说
现代戏剧			
序号	作品	作者	备注
1	戏剧两部：* 《傻姑娘与怪老树》 《嘅呸店》	郭宝崑	本地戏剧

*本地作品

H2 Malay Language And Literature

Subject Codes: 9576/1, 9576/2 & 9576/3

Matlamat Kursus Bahasa

Membina kemahiran pelajar untuk:

- (a) mentafsirkan dan menilai maklumat dan perincian penting dalam teks lisan dan tulisan tentang pelbagai topik dengan menggunakan bahasa yang baku;
- (b) membuat kesimpulan yang jitu tentang sesuatu teks dan mengaitkannya dengan pengalaman pelajar;
- (c) melahirkan, menyampaikan dan bertukar-tukar pandangan dengan jelas dan berstruktur menggunakan lensa yang berbeza tentang pelbagai topik semasa berkomunikasi;
- (d) menggunakan beberapa strategi yang sesuai untuk menulis esei naratif dengan jelas dan tersusun untuk menggambarkan peristiwa dan pengalaman atau menulis esei perbincangan yang mampu memperkuuh sudut pandangan dengan berlandaskan alasan-alasan dan bukti-bukti yang wajar; dan
- (e) memberikan komen tentang pelbagai topik di luar bidang mereka dan dapat menyampaikan pendapat mereka dengan ringkas, padat dan jitu.

Matlamat Kursus Kesusasteraan

Membina kemahiran pelajar untuk:

- (a) menyelami teks dan mengaitkan diri mereka dengan pelbagai teks serta membuat renungan berdasarkan pengalaman hidup mereka;
- (b) memahami unsur-unsur kesusasteraan dalam genre yang berbeza, mengapresiasi nilai estetik teks dan penggunaan gaya bahasa penulis dengan minda yang perseptif dan ingin tahu;
- (c) menganalisis gagasan utama dan persoalan-persoalan dalam kesemua teks dan meneroka kepentingan sesuatu teks itu terhadap masyarakat dan dunia;
- (d) memahami teks dengan membuat kaitan antara konteks yang terdapat dalam teks dengan dunia tempat tinggal mereka. Mereka boleh membuat renungan tentang pegangan nilai, perspektif dan identiti mereka serta meningkatkan kesedaran menerusi lensa yang berbeza-beza;
- (e) mengkonsepkan maksud melalui penulisan, menggambarkan peristiwa dan pengalaman serta menyampaikan pandangan mereka dengan bukti-bukti, alasan-alasan dan hujahan, dan juga menggabungkan dan menyampaikan respons mereka kepada orang lain; dan
- (f) dapat mencipta karya-karya asli dengan gaya penulisan dan pendekatan mereka tersendiri.

Format Penilaian

Format peperiksaan bagi Bahasa dan Kesusasteraan Melayu H2 Peringkat Lanjutan terbahagi kepada:

Kertas 1 (e-Peperiksaan): Karangan (1 jam 15 minit: 35 markah)

Kertas 1 - terdapat satu bahagian sahaja.

Calon dikehendaki menulis karangan yang panjangnya tidak kurang daripada 460 patah perkataan tentang salah satu topik yang diberikan. Calon dibenarkan untuk menggunakan kamus yang diluluskan.

Kertas 2 (e-Peperiksaan): Kefahaman (1 jam 45 min: 65 markah)

Kertas 2 - terbahagi kepada dua bahagian.

Bahagian A: Kefahaman dan Kosa Kata (32 markah)

Calon dikehendaki menjawab empat soalan kefahaman dan soalan kosa kata.



Bahagian B: Kefahaman dan Komentari (33 markah)

Calon dikehendaki menjawab tiga soalan kefahaman dan menulis komentari yang panjangnya tidak melebihi 160 patah perkataan berdasarkan dua teks sumber yang diberikan.

Kertas 3: Kesusasteraan (3 jam: 100 markah)

Kertas 3 terbahagi kepada empat bahagian:

Bahagian A	Bahagian B	Bahagian C	Bahagian D
Novel dan Cerpen	Puisi Tradisional dan Puisi Moden	Drama	Analisis Teks Bebas

Calon dikehendaki menjawab empat soalan kesemuanya; SATU soalan daripada setiap bahagian. Soalan-soalan dalam kertas ini berbentuk *open book*. Calon dibenarkan untuk merujuk kepada buku-buku teks yang telah ditetapkan.

Buku Teks

1. *Novel Batas Langit* (Edisi Pelajar) oleh Mohamed Latiff Mohamed, terbitan Angkatan Sasterawan '50, 2021
2. *Antologi Titik Pertemuan*, terbitan Angkatan Sasterawan '50, 2021

H2 Tamil Language and Literature

Subject Codes: 9577/1, 9577/2 & 9577/3

சிங்கப்பூர் - கேம்பிரிட்ஜ் பொதுக் கல்விச் சான்றிதழ்
(மேல் நிலைத் தேர்வு)

உயர்தரம் 2 தமிழ் மொழி இலக்கியம்

உயர்தரம் 2 தேர்வு எழுதுவோர் வினாத்தாள் ஒன்றுக்கு விடையளிப்பதுடன் வினாத்தாள் இரண்டு மற்றும் வினாத்தாள் மூன்றிற்கும் விடையளிக்க வேண்டும்.

வினாத்தாள் 1 9577/1 கட்டுரை (மின்னியல் தேர்வு)

கொடுக்கப்பட்டுள்ள நான்கு தலைப்புகளில் ஏதேனும் ஒன்றுக்கு 350 சொற்களில் கட்டுரை எழுத வேண்டும். (35 மதிப்பெண்கள்)

வினாத்தாள் 2 9577/2 (மின்னியல் தேர்வு)

இவ்வினாத்தாளில் இரண்டு பிரிவுகள் உள்ளன.

'அ' பிரிவில் ஒரு பனுவலும் அதனையொட்டி ஐந்து வினாக்களும் இடம்பெற்றுள்ளன.
'ஆ' பிரிவில் இரண்டு பனுவல்களும் அவற்றையொட்டி நான்கு வினாக்களும் இடம்பெற்றுள்ளன.
இவ்விரு பனுவல்களையும் கருத்துான்றிப் படித்து இவற்றையொட்டி அமைந்த வினாக்கள் அனைத்துக்கும் சொந்த நடையில் விடை எழுத வேண்டும்.

அ பிரிவு (32 மதிப்பெண்கள்)

ஆ பிரிவு (33 மதிப்பெண்கள்)

வினாத்தாள் 3 9577/3 இலக்கியம்

நாவல் மற்றும் சிறுகதை, கவிதை, நாடகம், இலக்கியத் திறனாய்வு என்ற நான்கு பிரிவுகளும் இலக்கியம் பயிலும் மாணவர்களுக்குரியன. மொத்தம் நான்கு வினாக்களுக்கு விடை எழுத வேண்டும்.
(மொத்த மதிப்பெண்கள் 100)

H1 Chinese 华文

Subject Codes: 8655/1 & 8655/2

- 1 所有修完中学华文课程的学生必修，并于高一年底参加‘A’水准考试。考获‘O’水准高级华文等级 A1 - D7 的学生可以免修。
- 2 本科试卷是遵照教育部《大学先修班华文课程标准》的相关教学目标及教学内容而编制的。课程的教学目标旨在加强学生的听、说、读、写和语言综合运用的能力，使学生能够有效地与人沟通。
- 3 本科试卷主要考查学生下列语文能力：
 - 聆听
 - 会话
 - 词语的认识和语言的应用
 - 阅读理解
 - 写不同文体的文章

- 4 本科考试包括下列两个试卷：

1. 试卷一：

第一部分：写作（60 分）

第二部分：语文理解与运用（80 分）

试卷		考查项目	方式	范围	题数	分数/比重	备注
一	第一部分	写作	开放式	记叙文 说明文 议论文	4 选 1	60/30%	文章的字数在 500 以上。 学生可以使用考评局规定的词典。
	第二部分	综合填空	多项选择	一个短文	10	20/10%	
		阅读理解一	多项选择 自由作答	1 至 2 个实用性语料，如广告、传单、新闻报道等	6	20/10%	
		阅读理解二	自由作答 长文缩短	一个短文 根据篇章的段落，缩写成不超过 70 字的短文	9	40/20%	
共					26	140/70%	

2. 试卷二:

口试（50分）

听力理解（10分）

试卷	考查项目	方式	范围	题数	分数/比重	备注
二	口试 口头报告	开放式	课程三大主题： 1. 文化 2. 关系 3. 变化	1	20/10%	根据所提供的话题，结合录像短片的内容，然后呈献一个不超过2分钟的口头报告。
	讨论	开放式		1	30/15%	主考员根据口头报告的内容，跟学生进行讨论。
	听力理解	多项选择	一个语段，一个简短对话，以及三个理解篇章 包括日常会话、广播、访谈、故事、新闻报道等	10	10/5%	先听录音，然后回答问题。
共				12	60/30%	

Chinese B 华文 B
Subject Codes: 8611/1, 8611/2 & 8611/3

1. 所有修完中学华文 B 课程, 以及考获‘O’水准华文等级 D7 - F9 的学生必修, 并于高一年底参加‘A’水准考试。
2. 本科试卷是遵照教育部《高中华文 B 课程标准》的相关教学目标及教学内容而编制的。课程的教学目标旨在以学生的先备知识与技能为基础, 进一步强化其听、说、读、写、口语与书面互动的能力。
3. 本科考试包括下列三个试卷:

1. 试卷一:

写作 (20 分)

试卷	考查项目	方式	范围	题数	分数/比重	备注
一	实用文	开放式	电子邮件 日记	2 选 1	20/20%	在电脑上进行写作, 并通过电脑系统呈交答案。 字数在 200 以上。 学生可以使用考评局规定的词典。
共				1	20/20%	

2. 试卷二:

语文理解与应用 (30 分)

试卷	考查项目	方式	范围	题数	分数/比重	备注
二	语文应用	多项选择	3 至 4 个段落或短文	10	10/10%	在电脑上进行作答, 并通过电脑系统呈交答案。
	阅读理解	多项选择	3 至 4 个实用性语料, 如广告、传单、新闻报道、日常对话等。	10	20/20%	
共				20	30/30%	

3. 试卷三：

口试（35分）

听力理解（15分）

试卷	考查项目	方式	范围	题数	分数/比重	备注
三	口试 口头报告	开放式	课程主题： 1. 文化	1	15/15%	根据制定的主题（文化），呈献一个不超过2分钟的口头报告。
	会话	开放式	课程主题： 2. 关系 3. 变化	1	20/20%	针对所提供的录像短片，以及主考员的提问，跟主考员进行一段对话。
	听力理解	多项选择	三个简短对话或语段，以及三个理解篇章 包括日常会话、广播、故事、新闻报道等	10	15/15%	先听录音，然后回答问题。
共				12	50/50%	

Bahasa Melayu H1
Kod Subjek: 8656/1 & 8656/2

BAHASA MELAYU B
Kod Subjek: 8613/1, 8613/2 & 8613/3

Matlamat

Kursus Bahasa Melayu H1 Peringkat Lanjutan (BM H1) dan Bahasa Melayu B Peringkat Lanjutan (BM B) bertujuan membangun pelajar-pelajar yang aktif dalam bahasa Melayu untuk berkomunikasi secara cekap dalam kehidupan seharian. Makanya, kedua-dua kurikulum ini memberikan penekanan untuk meningkatkan pengetahuan dan kemahiran mendengar, bertutur, membaca, menulis, interaksi lisan dan interaksi penulisan yang diperoleh di sekolah rendah dan menengah.

Para pelajar juga akan memperoleh, membangun dan mengaplikasikan kemahiran-kemahiran daripada tiga domain kemahiran abad ke-21 - Kemahiran Komunikasi, Kolaborasi dan Informasi; Literasi Sivik, Kesedaran Global dan Kemahiran Silang Budaya; dan Kemahiran Berfikir Kritis dan Inventif.

Kandungan

Kurikulum BM H1 dan BM B akan diajarkan berasaskan kerangka tiga tema luas, iaitu **Budaya, Perhubungan** dan **Perubahan**.

Format Penilaian bagi Bahasa Melayu H1 Peringkat Lanjutan

Kertas	Bahagian	Komponen	Markah / Timbangan
Kertas 1 (3 jam)	Bahagian 1 (1 jam 30 minit)	Karangan 1. Ekspositori 2. Naratif/Deskriptif 3. Argumentatif 4. Rangsangan grafik (terdiri daripada 3-4 gambar)	60 / 30%
	Bahagian 2 (1 jam 30 minit)	Penggunaan Bahasa, Kefahaman & Peringkasan A. Peribahasa (10m/5%) B. Kefahaman Objektif (10m/5%) C. Mengedit Teks (20m/10%) D. Kefahaman Subjektif (40m/20%)	80 / 40%
Kertas 2 (45 minit)	Lisan (15 minit)	A: Penyampaian Lisan (2 minit)	20 / 10%
		B: Perbincangan berdasarkan Penyampaian Lisan	30 / 15%
	Kefahaman Mendengar (30 minit)	10 soalan berbentuk aneka pilihan (MCQ) berdasarkan lima teks autentik pelbagai genre misalnya dialog, rencana, cerpen, berita ringkas, pengumuman dll.	10 / 5%
Jumlah			200 / 100%

Format Penilaian bagi Bahasa Melayu B Peringkat Lanjutan

Kertas	Komponen		Markah / Timbangan
Kertas 1 (50 minit)	Penulisan Fungsional 1. E-mel 2. Blog, forum dan lain-lain lagi berdasarkan rangsangan autentik (gambar, poster dan lain-lainnya)		20 / 20%
Kertas 2 (1 jam)	Penggunaan Bahasa dan Kefahaman 1. Tatabahasa (10m) 2. Kefahaman (20m)		30 / 30%
Kertas 3 (45 minit)	Lisan (15 minit)	A: Penyampaian Lisan (2 minit berdasarkan topik pilihan)	15 / 15%
		B: Perbualan (berdasarkan klip video)	20 / 20%
	Kefahaman Mendengar (30 minit)	10 soalan berbentuk aneka pilihan (MCQ) berdasarkan enam teks autentik pelbagai genre seperti iklan, risalah, menu dan laporan berita.	15 / 15%
Jumlah			100 / 100%

Perhatian:

Kursus Bahasa Melayu B Peringkat Lanjutan ialah lanjutan daripada kursus Bahasa Melayu B di peringkat ‘O’. Oleh sebab mata pelajaran ini bukan dianggap sebagai mata pelajaran peringkat H1 atau H2, pelajar hanya diberikan gred ‘Kepujian’ (*Merit*), ‘Lulus’ (*Pass*) atau ‘Tidak bergred’ (*Ungraded*).

H1 Tamil

Subject Code: 8657

சிங்கப்பூர் - கேம்பிரிட்ஜ் பொதுக் கல்விச் சான்றிதழ்
(மேல் நிலைத் தேர்வு)

தமிழ்மொழிப் பாடத்திட்டம்
உயர்தரம் 1 தமிழ்மொழி (H1 TL 8657/1 & 8657/2)

உயர்தரம் 1 தேர்வு எழுதுவோர் வினாத்தாள் ஒன்றுக்கு விடையளிப்பதுடன் வாய்மொழித் தேர்விலும் கேட்டல் கருத்தறிதல் தேர்விலும் பங்கேற்க வேண்டும்.

வினாத்தாள் 1 8657/1 (மூன்று மணி நேரம்)
வினாத்தாள் இரண்டு பகுதிகளைக் கொண்டிருக்கும்.

பகுதி 1
கொடுக்கப்பட்டுள்ள நான்கு தலைப்புகளுள் ஏதேனும் ஒன்றினைப்பற்றி 300 சொற்களில் கட்டுரை எழுத வேண்டும்.
(60 மதிப்பெண்கள்)

பகுதி 2

A1 பிழை திருத்தம் (10 மதிப்பெண்கள்)

A2 மரபுத்தொடர்கள் இணைமொழிகள் (10 மதிப்பெண்கள்)

B3 முன்னுணர்வுக் கருத்தறிதல் (20 மதிப்பெண்கள்)

C4 சுயவிடைக் கருத்தறிதல் (40 மதிப்பெண்கள்)

தாள் 2 8657/2 வாய்மொழித் தேர்வு

1 ஒளிக்காட்சியை ஒட்டிய வாய்மொழிப் படைப்பு (20 மதிப்பெண்கள்)
2 வாய்மொழிப் படைப்பை ஒட்டிய கருத்துரையாடல் (30 மதிப்பெண்கள்)

வினாத்தாள் 2 8657/2 கேட்டல் கருத்தறிதல் (10 மதிப்பெண்கள்)

மொத்த மதிப்பெண்கள் 200 (100%)

TAMIL ‘B’
Subject Code: 8614

சிங்கப்பூர் - கேம்பிரிட்ஜ் பொதுக் கல்விச் சான்றிதழ்
(மேல் நிலைத் தேர்வு)
தமிழ்மொழிப் பாடத்திட்டம்

TAMIL ‘B’ (8614/1, 8614/2 & 8614/3)
(இ)ப்பாடம் மொத்தம் மூன்று வினாத்தாள்களைக் கொண்டது.

வினாத்தாள் 1 8614/1 (50 நிமிடங்கள்)

மின்னஞ்சல் அல்லது வலைப்பூ ஆகிய இரண்டில் ஏதேனும் ஒன்றினைத் தேர்வு செய்து 125 சொற்களுக்குக் குறையாமல் கணினியில் தட்டச்ச செய்ய வேண்டும்.

வினாத்தாள் 2 8614/2 (1 மணி நேரம்)

- A1 முன்னுணர்வுக் கருத்தறிதல்
- A2 முன்னுணர்வுக் கருத்தறிதல்
- A3 முன்னுணர்வுக் கருத்தறிதல்
- B4 கருத்து விடைக் கருத்தறிதல்
- C5 தெரிவு விடைக் கருத்தறிதல்
- C6 தெரிவு விடைக் கருத்தறிதல்
- C7 தெரிவு விடைக் கருத்தறிதல்

தாள் 3 8614/3 வாய்மொழித் தேர்வு

இவ்வினாத்தாள் வாய்மொழிப் படைப்பு மற்றும் ஒளிக்காட்சியை ஒட்டிய உரையாடல் பகுதிகளை உள்ளடக்கி இருக்கும்.

தாள் 3 8614/3 கேட்டல் கருத்தறிதல்

இவ்வினாத்தாள் கேட்டல் கருத்தறிதல் பகுதியை உள்ளடக்கி யிருக்கும்.

Physical Education

Physical education is an integral aspect of St Andrew's Junior College's holistic education anchored in the belief in developing all-rounded individuals who are primed to live and work in a globalised world.

The purpose of physical education is to enable students to demonstrate individually and with others the physical skills, practices and values to enjoy a lifetime of active, healthy living.

Objectives

The physical education programme develops in students:

- A range of skills through participation in regular and varied physical education experiences. These skills enable students to enjoy movement, discover interests, and achieve personal goals related to participation in physical activity.
- Competency in movement. This provides the foundation for continual skill acquisition and facilitates future successful participation in physical activity resulting from changing life patterns.

Course Content

1. Every student will be given the opportunity to participate in at least 3 physical activities.
2. Students are given the opportunity to select from a range of activities provided by the school.
3. Students will be given the opportunity to play in recreational competitions, and to participate in organising them.
4. Students will attend sports/health-related talks.

Assessment

Every student receives training towards meeting the standards of the Physical Fitness Test (PFT). The PFT is conducted annually for JC2 students in the 1st semester and is compulsory for all students except those certified medically unfit to take the test.

There are specific regulations governing the conduct of physical education. These are:

1. Attendance will be taken at all PE sessions. Absentees must provide to their PE teachers at the earliest opportunity, proper document (e.g., medical certificates) to support their absenteeism and may have to make up for missed PE lessons.
2. Only students with valid medical certificates will be exempted from PE lesson.
3. Students wishing to excuse themselves from PE lessons must report to their PE teachers in advance to seek permission.
4. Students who are excused from PE lessons must remain in the designated location during PE lessons.
5. Students who are not properly attired for PE lessons will be considered as being absent. They may then have to make up for their absence on stipulated days assigned by the PE Department. Only the official college PE T-shirt and shorts are accepted as proper PE attire.
6. Student representatives of various CCAs are not exempted from PE lessons unless their respective CCA teachers-in-charge have sought specific permission on their behalf from HOD PE/CCA.

Weight Management Programme

The height and weight of all students are measured at least once a year. Students who are found to be not within the accepted weight range will be enrolled in our Weight Management Programme. Students whose BMI-for-age is in the 90th percentile and above will attend a compulsory workshop yearly. Underweight students will receive support, education and such intervention measures as deemed necessary.

Once enrolled in the College's Weight Management Programme, a student's attendance for all activities of the programme is compulsory and takes priority over all CCA activities.

A student graduates from the College's Weight Management Programme when he achieves his acceptable BMI.





NOTES

 A pink pencil icon with a yellow eraser, resting on a grey oval.



Front Cover Designed By: Mr Sim Hao Jie (SAJC Alumni, 08S01)

ST ANDREW'S JUNIOR COLLEGE
5 SORBY ADAMS DRIVE SINGAPORE 357691

Website: www.standrewsjc.moe.edu.sg



www.facebook.com/standrewsjc



@sajc_official

Office Telephone Number: 62857008/62852007
Fax Number: 62850037