

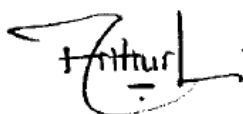
A Message from Secretary for Education and Manpower

After years of discussions, there is now a general consensus that a 3-year curriculum at the senior-secondary level and a 4-year course at the university will serve the best interest of Hong Kong's students. This will allow access to three years of senior secondary education for every student, provide a more coherent and diversified curriculum and help develop the full potential of students of different needs, aptitudes and interests. The extension of the normative duration of undergraduate studies for one year will make room for quality university education and all-round development. The 3+3+4 academic structure will also articulate better with international education developments of the 21st Century.

The academic reform will bring significant and long term benefits to Hong Kong. But it also requires careful planning, considerable resources and full cooperation from the education sector and the community as a whole. We need your views so that we can work out the implementation details and a realistic timetable. Teachers and administrators of schools and universities have all along been dedicated and hardworking and I have every confidence that they will be able to cope with the challenges. We will work hand in hand with them and provide the necessary support to ensure a smooth implementation.

The Government will continue to invest heavily in education. We will also ensure that no student would be deprived of the opportunity to study through lack of means. However, given the budgetary constraints, we need the concerted commitment and contribution from all parties to implement the new academic structure. We hope to hear your views on the shared funding model.

The 3+3+4 reform is a worthy investment that will bring lasting benefits to our future generations. Your participation and support are essential for successful implementation. We welcome your suggestions and cherish every opinion that you give us!



Professor Arthur K.C. Li
Secretary for Education and Manpower

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Acronyms

AL	Advanced Level
ALA	Academically low achiever
ASL	Advanced Supplementary Level
C&A	Curriculum and Assessment
CDC	Curriculum Development Council
COC	Career-Oriented Curriculum (pilot of the career-oriented studies)
CPD	Continuing Professional Development
ECR	Education Commission Report
EMB	Education and Manpower Bureau
GDP	Gross Domestic Product
HKALE	Hong Kong Advanced Level Examination
HKCEE	Hong Kong Certificate of Education Examination
HKDSE	Hong Kong Diploma of Secondary Education
HKEAA	Hong Kong Examinations and Assessment Authority
IE	Integrated Education
KLA	Key Learning Area
P1/2/3/4/5/6	Primary 1/2/3/4/5/6
RASIH	Review of the Academic Structure for Senior Secondary Education and Interface with Higher Education
S1/2/3/4/5/6/7	Secondary 1/2/3/4/5/6/7
SBA	School-based Assessment
SBCTS	School-based Curriculum Tailoring Scheme
SBRSP	School-based Remedial Support Programme
SEN	Special Educational Needs
SRA	Standards-referenced Assessment
SS1/2/3	Senior Secondary 1/2/3
UGC	University Grants Committee

1. Introduction

Background

- 1.1 In 2000, the Education Commission recommended the adoption of a 3-year senior secondary academic system to facilitate the implementation of a more flexible, coherent and diversified senior secondary curriculum. Through it, students would be able to build a broader knowledge base and a more solid foundation for whole-person development and pursue lifelong learning for today's knowledge-based society. The Government endorsed the Education Commission's recommendation.

- 1.2 In May 2003, the Education Commission's Working Group on the Review of the Academic Structure for Senior Secondary Education and Interface with Higher Education (RASIH) made further recommendations on the development of a new curriculum, assessment and examination, and on university admissions¹. In his 2004 Policy Address, the Chief Executive accepted RASIH Working Group's recommendations and undertook to consult the public on the implementation details.

The vision

- 1.3 Under the new "3+3+4" system, three years in the lower secondary system (the current S1 to S3) will be followed by a further 3 years in the senior secondary school for ALL students. The current two high-stake examinations - the Hong Kong Certificate of Education Examination (HKCEE) and the Hong Kong Advanced Level Examination (HKALE) - will be reduced to ONE examination to be taken at the end of the senior secondary stage. This examination will include broader assessment methods and be complemented by other means of recognizing students' achievements, in order to build up a more comprehensive students' learning profile. The length of a normal undergraduate degree will be extended from 3 to 4 years.

¹ The RASIH report can be found on the website <http://www.e-c.edu.hk/eng/reform/rasih.html>

- 1.4 Higher education will remain the destination of many students and be a prime means of developing human resources of the appropriate educational quality for the future of Hong Kong. Secondary schools will provide a balanced and diversified curriculum that will enable ALL students to seek further studies, vocational training, or employment suited to their aptitudes, interests, abilities, and to the needs of the society. The new senior secondary education will articulate more smoothly with further vocational studies, sub-degree and degree in other major international systems of higher education.

The goal

- 1.5 The goal, as stated in *Learning for Life, Learning through Life* published by the Education Commission in 2000 is for ALL students to develop into balanced individuals who can contribute in meaningful ways to society, and who can draw on their own internal resources to continue to learn, apply their strengths and address their weaknesses.

The need for change

- 1.6 The existing system of 2+2 within senior secondary education, with a selection process after the first two years, has served Hong Kong well in the past, but times have changed. Economic and societal changes, rapid development of new technologies and knowledge and increasing global competitiveness require that Hong Kong provide a full senior secondary education to all, enabling all students to be self-initiating and lifelong learners. Our future prosperity and well-being depend on this.
- 1.7 Secondary education is the platform for embedding an individual's lifelong learning abilities. There is an urgent need for a new system that will cater for individual differences and enable ALL secondary students to develop their capacities to the full. Greater emphasis will be placed on learning how to learn, rather than on acquiring detailed knowledge in a narrow field. This calls for a more broad-based curriculum with more choice to suit individual aptitudes and interests, and for a different approach to learning.

Benefits

1.8 The benefits from a “3+3+4” academic system are that:

- (a) ALL students will have the opportunity to study 3 years at the senior end of the secondary school. At present only a third of Secondary 5 graduates continue their studies at Secondary 6. This is low by international standards.
- (b) As a result of the new curriculum offered, ALL students will be better prepared for work or further learning, with enhanced language and mathematical abilities, a broadened knowledge base, increased competence in critical thinking, independent learning and interpersonal skills, and exposure to other learning experiences in moral, civic, physical and aesthetic areas.
- (c) The new curriculum will be more coherent, and offer greater diversity and choice to suit the different needs, interests and abilities of students.
- (d) The new system will provide smoother multiple pathways to higher education qualifications (including academic, vocational and professional qualifications) so that every student has an opportunity to succeed in life.
- (e) As a result of replacing the HKCEE and HKALE with a new and more comprehensive assessment system leading to a single diploma, the current over-emphasis on examinations will be reduced, creating more time for more productive ways of learning, and for effective remedial and enhancement programmes.
- (f) As a result of including a school-based assessment component in the public examination, the assessment of students’ abilities will be more comprehensive, particularly with regard to those skills that are not open to assessment in one-off written tests.
- (g) As a result of employing standards-referenced assessment, in which it is made clear what a student has to know and be able to do to attain a certain grade, better information on student attainment will be provided to parents, educational institutions and employers.

- (h) Having four years in which to educate students, higher education institutions will be better able to provide balanced, all round education to their students, through undergraduate degree courses, which provide a strong initial foundation of subjects to support a later more specialised focus.
- (i) A “3+3+4” academic system will align Hong Kong with a number of important international systems including those of USA and Mainland China, and allow better international articulation with them.

Feedback

1.9 This document sets out a vision for the future of senior secondary education in Hong Kong, and seeks the views of all stakeholders on the design blueprint, timetable for implementation and financial arrangements.

1.10 You are warmly invited to respond to this paper and to the questions posed in the concluding chapter by sending your comments to the following on or before **19 January 2005** by:

E-mail: cdchk@emb.gov.hk

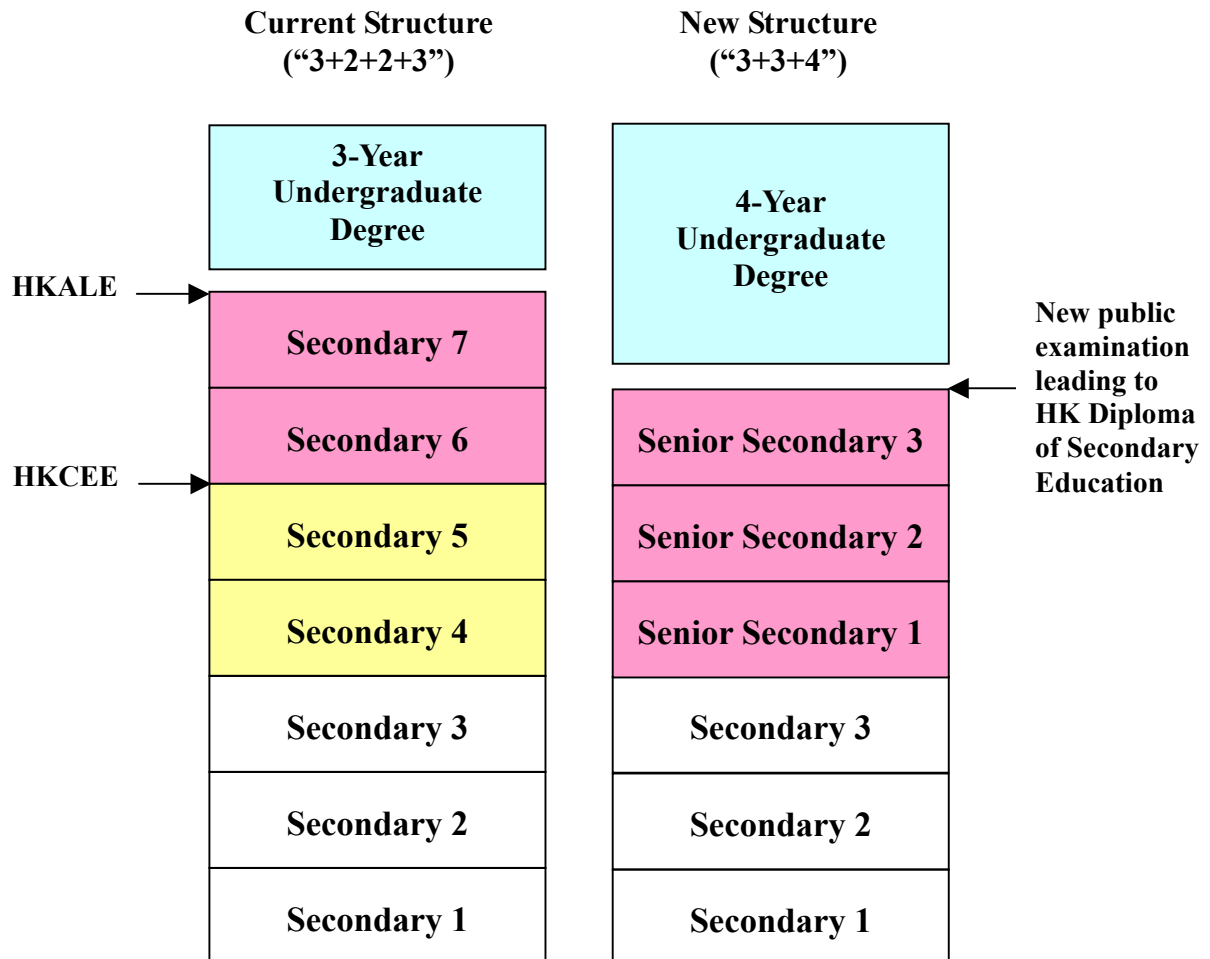
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For enquiries, please call 2892 6460 or visit the website <http://www.emb.gov.hk> for further information on this document, or on the progress in curriculum reforms. The FAQs (frequently asked questions) also provide useful insights and information.

2. The New Academic System

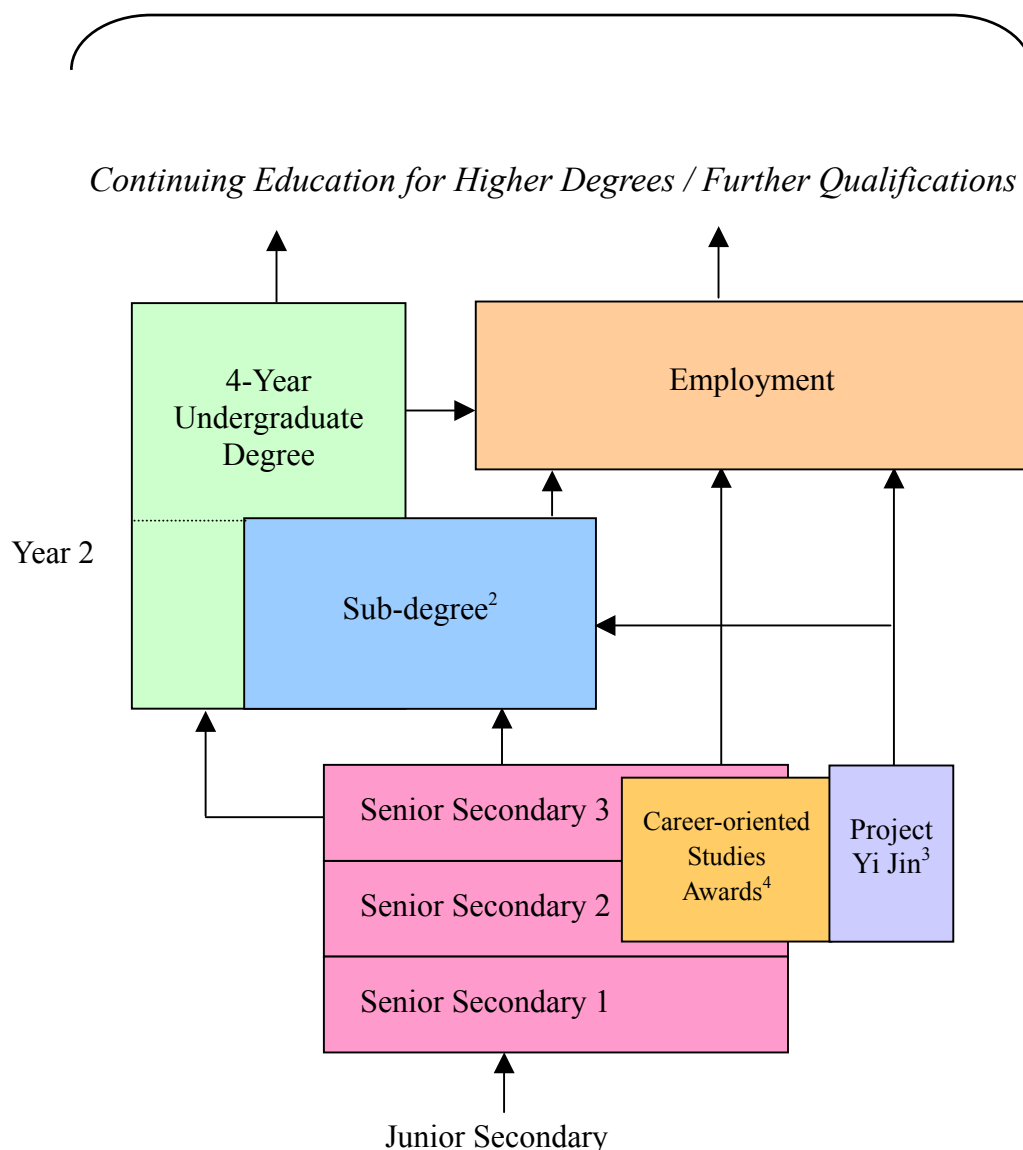
2.1 The differences between the current and the new academic structure are shown below.



2.2 The new system is not just for students proceeding to university. It aims to provide a more diversified senior secondary curriculum that includes career-oriented studies awards (recognised by post-secondary institutions) in combination with other school subjects. Post-secondary institutions offer further education opportunities leading to sub-degree qualifications, including associate degrees, higher diplomas and diplomas, which can be stand-alone qualifications or articulate into full degrees.

2.3 The following diagram shows the different and broader pathways for students as they progress in their learning.

**Connection of New Senior Secondary Education
to Different Pathways for Lifelong Learning**



² Sub-degree programmes include associate degrees, higher diplomas and diplomas.

³ Project Yi Jin is a programme for S5 leavers or youths aged 21 or over. Successful completion of Project Yi Jin is equivalent to five passes in the HKCEE in terms of qualification for employment and suitability for some further studies. A Yi Jin/Secondary Schools Collaboration Project is now being piloted in schools, and may be adapted further with the implementation of “3+3+4”.

⁴ Career-oriented studies are being piloted currently as Career-Oriented Curriculum (COC) courses in secondary schools. They focus on areas that are important to Hong Kong’s economy. Like Project Yi Jin, the experiences of the COC courses will be used to inform the implementation of “3+3+4” and cater for the career needs of students according to their interests and aptitudes.

Summary

1. The new system will offer 3 years of senior secondary schooling to ALL students.
2. The senior secondary curriculum will be diversified. Alternative education programmes designed to give students a second chance like Project Yi Jin, and a similar version of it piloted in secondary schools will be adapted to the new system.
3. Flexible exit to employment and smoother entry to post-secondary and vocational studies will be promoted to supplement the traditional pathway focused on direct admission to a university.

3. The Curriculum

Introduction

- 3.1 The existing senior secondary curriculum was based on the English “sixth form” model, which provided a de facto pre-university education for a small, relatively elite group of students and required advanced study in a small number of specialized subjects.
- 3.2 The “sixth form” model was based on a very extensive coverage of a defined body of content. The explosion of knowledge and the rapid pace of change have made the factual mastering of fixed content less important than in the past, and places a greater premium on understanding the concepts and principles underpinning subjects or disciplines, building skills in learning to learn for lifelong learning, and developing positive values and attitudes for responsible citizenship.
- 3.3 The goals of the reformed senior secondary curriculum, building on those in basic education, are destined to help each student to:
- be biliterate and trilingual with adequate proficiency;
 - acquire a broad knowledge base, and be able to understand contemporary issues that may impact on their daily life at personal, community, national and global levels;
 - be an informed and responsible citizen with a sense of global and national identity;
 - respect pluralism of cultures and views, and be a critical, reflective and independent thinker;
 - acquire information technology and other skills as necessary for being a lifelong learner;
 - understand one’s career/academic aspirations and develop positive attitudes towards work and learning; and
 - lead a healthy life style with active participation in aesthetic and physical activities.

Guiding principles

3.4 In order to achieve these goals and educate all to higher standards, fundamental changes need to be made to the curriculum, building on its existing strengths and taking account of the local context. The new curriculum will be based on the following guiding principles:

(a) Balance between breadth and depth

The aims are to widen the knowledge base while still allowing in-depth learning, to broaden the scope of curricular objectives to include positive values and attitudes, and to promote whole-person development.

(b) Balance between theoretical and applied learning

The aim is to achieve within all subjects an appropriate balance between theoretical and applied learning so that the learning of all subjects is characterized by rigour and relevance.

(c) A flexible and diversified curriculum

The aim is to cater for a wide spectrum of student interests, needs and abilities through a comprehensive range of subjects, constructed to meet individual student's needs. This includes meeting the needs of students with learning difficulties and those who are especially gifted.

(d) Learning how to learn and inquiry-based learning

The aim is to develop students' capacities for self-directed, lifelong learning by building independent learning into all subjects.

(e) Smoother articulation to multiple pathways

The aim is to provide a curriculum, which enables students to pursue academic and vocational/professional education and training through articulation to a range of post-secondary tertiary institutions, or to seek employment.

(f) Greater coherence

The aim is to avoid having too many subjects, to avoid duplication, and to make connections across subjects, in order to bring about coherence and improved quality in learning.

(g) Alignment

The aim is to build on the curriculum and assessment developed for students in P1-P6 and S1-S3, and offer a cumulative but progressively more demanding learning experience.

Curriculum framework

3.5 In order to ensure a balance between the principles of breadth of study and in-depth learning in a chosen field, all students will pursue a programme of study made up of three components, namely Core subjects, Elective subjects and other learning experiences. The proposed programme is built on the prior knowledge and learning to learn/generic skills acquired in basic education, and aims to provide students with opportunities to learn in all Key Learning Areas (KLAs) through different components that suit their different needs, aptitudes, abilities and interests.

(a) Core subjects

All students will take four core subjects, namely: Chinese Language, English Language, Mathematics and Liberal Studies. They are discussed in more detail below.

(b) Elective subjects

To accommodate student choice, it is proposed that all students choose two or three elective subjects. These might include one or more career-oriented studies.

(c) Other learning experiences

In order to meet the important non-academic goals of the curriculum for whole-person development, schools will organize learning that fosters moral and civic education, involves community service or work-related experiences (such as job attachment), and include aesthetic and physical/sporting activities.

3.6 Table 1 compares the new senior secondary school curriculum with what exists currently for students in S4-S7. Notional allocations of time to be devoted to the three components of the curriculum are as follows:

Core subjects	45-55 %
Elective subjects	20-30 %
Other learning experiences	15-35 %

**Table 1:
Comparison of the current and new senior secondary curriculum**

	Current System	New System
<u>Core Subjects*</u> Subjects taken by all students	S4-S5: Chinese Language, English Language (Syllabus A and Syllabus B) and Mathematics S6-S7: Chinese Language and Culture and Use of English	SS1-SS3 (S4-S6): Chinese Language, English Language, Mathematics and Liberal Studies
<u>Elective Subjects*</u> Subjects that students can select within the choices offered by schools	S4-S5: Typically 4-5 other subjects S6-S7: Typically 2-3 'A' level or 'AS' level subjects	SS1-SS3 (S4-S6): Typically 2-3 other subjects
<u>Other Qualifications</u>	No formal recognition or encouragement of courses leading to other qualifications	Recognition and encouragement to be given to courses that provide different pathways to post-school options
<u>Other Learning Experiences</u> <ul style="list-style-type: none"> • Moral and civic education • Community service • Aesthetic and physical activities • Career-related experiences 	Little or no time allocated to other learning experiences Incorporated where possible into regular subject teaching	Typically 15-35 % of a student's total lesson time in school allocated to other learning experiences

* See Table 2 for subjects in the new system.

3.7 In summary, a student programme will typically be structured as follows:

Chinese Language, English Language, Mathematics and Liberal Studies as core subjects for ALL students	2 or 3 elective subjects (chosen from a range of 20 elective subjects)	Other learning experiences (moral and civic education, community service, aesthetic and physical activities, career-related experiences)
	Career-oriented studies (alternative(s) to elective(s))	
45 – 55%	20 – 30%	15 – 35%

(Note: Schools may adjust the % of time allocation flexibly within each of Core subjects, Elective subjects, and other learning experiences to cater to the needs of their students and school contexts.)

Chinese and English Languages

3.8 In line with the Government’s language policy of promoting biliteracy and trilingualism, both Chinese Language and English Language will continue to be core subjects in the proposed 3-year senior secondary curriculum. Proficiency in both Chinese and English is a key to helping Hong Kong enrich its culture and maintain and strengthen its competitiveness as a world-class city. Furthermore, these languages are important learning tools that enable learners to study content-based subjects according to their needs, interests and abilities.

The Chinese Language and English Language curricula at senior secondary level aim to enable learners to broaden and deepen the language competencies they have developed through Basic Education (P1 – S3) so that they are able to use the two languages with increasing proficiency for personal and intellectual development, effective social interaction, further study, vocational training, work and pleasure. Both language curricula provide learners with ample opportunities to develop generic learning skills such as critical thinking, problem-solving and creativity, as well as positive values and attitudes conducive to lifelong learning. Each subject would take up about 12.5% of their total lesson time.

Mathematics

- 3.9 The curriculum framework for Mathematics is different from that recommended in the RASIH report. In the revised model, there is only one core mathematics subject with two mutually exclusive extensions to cater for broader interests of students, and potential studies like engineering and science departments. No elective mathematics subjects will be offered in the proposed senior secondary curriculum so that students have an opportunity to choose other elective subjects for broad-based education.
- 3.10 One of the two extensions aims to introduce elementary knowledge and skills in the areas of Calculus, Probability and Statistics required in workplaces, daily life and future studies, while the other aims at extending students' mathematics horizons to more advanced mathematical concepts and processes. Students are allowed to take one of the two extensions only. In other words, students may take the core mathematics without any extension or the core mathematics with either extension. Students' achievements in the core mathematics and the extension will be reported separately. The proposed lesson time for the core mathematics with one extension is 15%.

Liberal Studies

- 3.11 In the interest of ensuring that students experience a broad education in their senior secondary years, all students will take the subject of Liberal Studies. The content of Liberal Studies aims to broaden students' knowledge base and enhance their social awareness through the study of a wide range of contemporary issues. This will lead to a better understanding of Hong Kong society, the development of China and its place in the modern world, globalisation, and citizenship at the community, national and global levels.
- 3.12 The unique characteristic of Liberal Studies is that it will help students make explicit connections among knowledge and concepts from different disciplines/subjects, enabling them to examine issues from multiple perspectives, and to construct personal knowledge from their own

experiences. In so doing, students develop independent learning and cross-curricular knowledge, skills and complement other core and elective subjects to achieve a balance between breadth and depth in the school curriculum. (An extract from the curriculum framework on Liberal Studies is provided in Appendix 2 for reference.)

- 3.13 Liberal Studies is not a new subject in Hong Kong, since it is currently studied at the Advanced Supplementary Level (ASL). The proposed design, however, expands and improves the ASL syllabus to meet the changing circumstances in Hong Kong. The good practices, experiences and reflections of implementing Liberal Studies (ASL), HKCEE Integrated Humanities, and Science and Technology will be used to support other schools that have no experience in the teaching of the subject. The curriculum and assessment design will be flexible enough to allow for a range of different ways for schools, teachers and students to teach and learn Liberal Studies, including forms of team-teaching. The RASIH recommends allocating 15% of total lesson time to Liberal Studies. Considering feedback from the school sector, 12.5% of total lesson time is recommended instead, as schools may have already built a foundation in the learning capability in basic education, while others may align the learning and teaching of Liberal Studies with other studies.

Elective subjects

- 3.14 Twenty elective subjects for the new senior secondary academic system are developed based on a balance of interrelated factors, such as content rigour, relevance to users and lateral coherence across subjects. Schools offering Ethics and Religious Studies, and Physical Education, Visual Arts and Music as examination subjects may consider using part of the subjects as alternative studies in moral and civic education, and physical and aesthetic activities for the whole-person development of students.
- 3.15 Students will not be narrowly streamed into arts, science, commercial or technical studies as before, but will be encouraged to choose a range of subjects that develop their interests and abilities, and that open up a number of pathways into further studies and careers.

Table 2:
Proposed new senior secondary subjects

Key Learning Areas	Subjects
Chinese Language Education	<ul style="list-style-type: none"> ✧ <i>Chinese Language (Core subject)</i> ✧ Chinese Literature
English Language Education	<ul style="list-style-type: none"> ✧ <i>English Language (Core subject)</i> ✧ Literature in English
Mathematics Education	✧ <i>Mathematics (Core subject + two extensions)</i>
	✧ <i>Liberal Studies (Core subject)</i>
Personal, Social and Humanities Education	<ul style="list-style-type: none"> ✧ Chinese History ✧ Economics ✧ Ethics and Religious Studies ✧ Geography ✧ History ✧ Tourism and Hospitality Studies
Science Education	<ul style="list-style-type: none"> ✧ Biology ✧ Chemistry ✧ Physics ✧ Science
Technology Education	<ul style="list-style-type: none"> ✧ Business, Accounting and Financial Studies ✧ Design and Applied Technology ✧ Health Management and Social Care ✧ Home Economics ✧ Information and Communication Technology
Arts Education	<ul style="list-style-type: none"> ✧ Music ✧ Visual Arts <p style="text-align: center;"># Performing Arts (to be developed)</p>
Physical Education	✧ Physical Education

Readers who wish to consult the initial design for each of these subjects can refer to the Proposed Core and Elective Subject Frameworks for the New Senior Secondary Curriculum, which have been put on-line at <http://www.emb.gov.hk>.

Career-oriented studies

3.16 Career-oriented studies provide courses alongside other school subjects and learning experiences in the senior secondary curriculum. They have been included in the senior secondary school to offer choices and diversities in the curriculum and may be chosen by students as alternatives to the elective subjects. The main purpose of providing such courses is to cope with the particular needs, aptitudes and interests of students for whom such courses are appropriate. Career-oriented studies will expand the range of opportunities available to school students, enhance their employability, and prepare them better for further vocational education and training. The courses of study will be quality assured by an accreditation agency external to the school, and the qualifications that result from them will be recognised as part of the Qualifications Framework. The Framework can be referred to on-line at <http://www.emb.gov.hk>.

3.17 Studies may be offered in the following areas:

- Business (e.g. Logistics Fundamentals)
- Arts and Media (e.g. Multimedia Game Design)
- Design (e.g. Fundamental Fashion and Image Design)
- Services (e.g. Beauty Therapy)
- Performing Arts (e.g. Carnival Entertainer Training)
- Information Technology (e.g. Computer Networking)
- Engineering (e.g. Fundamental Vehicle Servicing)
- Food and Production (e.g. Fundamental Western Food Preparation);
and
- Leisure, Tourism and Hospitality (e.g. Introduction to Leisure and Tourism Studies).

3.18 The current pilots of Career-oriented Curriculum (COC) courses are initial examples of career-oriented studies. The findings from the evaluation of these courses will inform the future shape of career-oriented studies in the senior secondary curriculum.

Other learning experiences

3.19 Students are entitled to moral and civic education, community service, aesthetic and physical activities and career-related experiences. These learning experiences complement the examination subjects and career-oriented studies and ensure that learning leading to informed and responsible citizenship, respect for plural values and healthy living style, and the development of career aspirations is provided.

International benchmarking

3.20 The curriculum for the new senior secondary subjects will be compared with international examples of best practice during their development to draw on the lessons they offer. Joint committees from Curriculum Development Council (CDC) and Hong Kong Examinations and Assessment Authority Council (HKEAA Council) comprising curriculum and assessment experts will bring all the relevant perspectives together.

3.21 The completed subject curricula will be benchmarked against the relevant subject curricula in Singapore, Mainland China, the United Kingdom, and Australia, taking into account the local context. The curriculum will also be benchmarked against international qualifications such as the International Baccalaureate. Benchmarking will be a regular occurrence, as subjects here and overseas have to be kept in line with new global and contextual demands.

Medium of instruction

3.22 Both the curriculum and the associated assessment process will be designed to enable relevant subjects to be taught and examined in either Chinese or English.

Curriculum delivery

- 3.23 In implementing the new curriculum, schools will be encouraged to adopt a more flexible approach to the use of lesson time than in the past. For example, it has been the practice to allocate the same amount of time for each subject. When implementing the new curriculum, schools may find it appropriate to flexibly allocate the amounts of lesson time to some subjects, and also to use block time-tabling to maximize the number of subjects and subject combinations to be offered to students.
- 3.24 Given the increased enrolment of senior secondary students, schools generally will be able to be more flexible and offer more subject combinations than previously. However, in the interest of meeting the needs of a wider range of students, schools will be encouraged to network with neighbouring schools to offer a wider range of subjects. They will be encouraged to offer students real choice and avoid channelling students into a straight jacket of Arts/Science/Commerce and Technical streams.
- 3.25 The Government is establishing new senior secondary schools that will be able to offer a wide range of subjects and programmes, including alternative curricula.
- 3.26 The existing practices for students with special educational needs (SEN) will continue in the new senior secondary system. The needs of SEN students, including those with visual impairment, hearing impairment, physical disability or emotional and behavioural problems, as well as the needs of gifted students, will be catered for in the new system through a differentiated curriculum.

Summary

4. The senior secondary curriculum will be re-designed to better meet the demands of the modern world and to cater for a wider range of student aspirations, interests, aptitudes and abilities.
5. All students will be expected to take four core subjects over the three years of senior secondary schooling, namely: Chinese Language, English Language, Mathematics and Liberal Studies.
6. Students will be encouraged to take 2 to 3 elective subjects which could be drawn from the list given in Table 2, or could include one or more career-oriented studies.
7. Schools will make available time within and outside the school day to organise structured learning activities for students that address the non-academic goals of the curriculum for whole-person development.

4. Assessment and Certification

A new credential

- 4.1 Under the current system, student performance is assessed and certificated through two public examinations, based on the traditional English model of school examinations.
- 4.2 The HKCEE is typically taken by most students at the end of their fifth year of secondary education (S5). The HKALE is typically taken at the end of the seventh year of secondary education (S7). The HKALE is taken by around a third of the number of students leaving S5.
- 4.3 In the “3+3+4” system, it is proposed that these two examinations be replaced by a new assessment system leading to ONE single qualification, tentatively named as the Hong Kong Diploma of Secondary Education (HKDSE)⁵. The assessment and examinations for the new qualification would typically be taken by students at the end of their sixth year of secondary education, or the third year of senior secondary education (i.e. SS3). There will be fast tracks for very able students so that they can take the examinations when they are ready to do so.
- 4.4 The new qualification would provide all students with a common credential giving access to university study, work and further education and training. It will be administered by HKEAA, the body that currently administers the HKCEE and the HKALE.
- 4.5 Replacing the HKCEE and HKALE with a new and comprehensive assessment system leading to a single qualification will reduce the current over-emphasis on examinations and provide more time for teaching and learning.

⁵ This proposed name may change.

Guiding principles

4.6 The following are important principles for the proposed new qualification and associated assessment and examinations system:

(a) Aligned with the curriculum

The outcomes that are assessed and examined through the HKDSE should be aligned with the aims, objectives and intended learning outcomes of the new senior secondary curriculum. To enhance the validity of the public examination, assessment procedures should address the range of valued learning outcomes, and not just those that are assessable through external written examinations.

(b) Fair, objective and reliable

Students should be assessed in ways that are fair and are not biased against particular groups of students. A characteristic of fair assessment is that it is objective and under the control of an independent examining authority that is impartial and open to public scrutiny. Fairness also implies that assessments provide a reliable measure of each student's performance in a given subject, such that if they were to repeat the assessment, they would obtain a very similar result.

(c) Inclusive

The current HKALE is designed for a relatively elite group of students, most of whom aspire to university study. The new assessments and examinations will be designed to accommodate the full spectrum of student aptitudes and abilities.

(d) Standards-referenced

The new system will be 'standards-referenced', i.e. students will be matched against standards, which say what students have to know and be able to do to merit a certain grade.

(e) Informative

The new qualification and the associated assessment and examinations system should provide useful information to all parties. Firstly, it should provide feedback to students on their performance and to teachers and schools on the quality of the instruction provided.

Secondly, it should communicate to parents, tertiary institutions, employers and the public at large what it is that students know and are able to do, in terms of how their performance compares with the standards. Thirdly, it needs to facilitate selection decisions that are fair and defensible.

(f) Internationally benchmarked

The standards embedded in the new system should be internationally benchmarked to ensure that they are equal to or more rigorous than those of other relevant education systems. In addition, recognition for the new HKDSE should be obtained internationally so that students can pursue further studies overseas.

(g) Administrative feasibility and efficiency

The new assessment and examinations system should be implemented in ways that are practicable and cost-efficient, and that do not generate unduly time-consuming administrative or clerical tasks or require excessive resources to implement.

4.7 To achieve the above will require a number of changes in the way students are currently assessed, examined and results are reported. Sufficient time will be made available to develop the assessment instruments and exemplars, and to reach consensus on the standards. Proposals for two key changes are described in more detail below.

Broadening the assessment base

4.8 In order to ensure alignment between what is taught and what is assessed, it will be necessary to make use of a wider range of approaches to assessment than have typically been used in the past through the public examinations system.

4.9 For example, in the subjects of English Language and Chinese Language, the importance of assessing and reporting student competence in speaking and listening in addition to the more commonly examined skills of reading and writing is widely recognised. In recent years, the HKEAA has introduced innovative ways of examining speaking and listening. As part of the new HKDSE examination, further attention will be paid to these important skills and to ways of assessing them that are fair, objective, efficient and reliable.

4.10 Across the curriculum there is a range of generic skills such as communication skills, higher-order thinking skills, problem-solving skills, creativity and the ability to work independently or as a member of a team, which are essential for work and for further study, and are highly valued in the modern world. Some of these competencies can be assessed by using more open-ended questions in examinations, or by devising new assessment methods such as those recently introduced for assessing speaking and listening. These will be reflected in the assessment schemes for all subjects. However, not all generic competencies can be assessed within the confines of a public external written examination. To assess some of them, a school-based assessment component will be included as a part of certification in each subject.

4.11 Examples of types of school-based assessments that can be used in different subjects include:

- a research project
- a product/model
- a folio of pieces of work
- a practical activity or experiment
- a worked problem or application
- a listening and/or speaking activity
- a performance

4.12 Teachers currently assess their students in an ongoing fashion using many of the above methods, but their assessments rarely contribute to a student's final result. Under the new system, the results of school-based assessment will be taken into account in working out the student's final result.

4.13 School-based assessment recognises the importance of taking into account the professional judgments of teachers and the knowledge they have of their students. It performs a valuable role in teacher professional development. However, it does raise concerns in some people's minds regarding objectivity and fairness. With regard to this, educational research has consistently shown that teachers rank their own students accurately, but that they find it harder to know the standing of their students in relation to students in other schools.

- 4.14 To address this problem, the school-based assessment results of students will be statistically moderated with reference to their external examination results. This is standard practice in most examining authorities in which school assessments are used as part of the overall assessment of students. Other methods of moderation will be explored, particularly where the subject is not suited to assessment solely by a written examination (such as Visual Arts and Design and Applied Technology), or where small student numbers make non-statistical methods cost effective and manageable. Such methods not only improve the validity of the moderation, but also have professional development benefits for those involved.
- 4.15 School-based assessment is not new in Hong Kong. It has already been used in a number of examinable subjects to assess key outcomes, and is being extended to another nine HKCEE subjects and four HKALE subjects over the period 2004-2007. Building on local experience and on the more extensive experience of examining authorities overseas, more systematic use will be made of school-based assessment in all subjects. In the first instance, it is proposed that school-based assessments will account for between 20-30% of the total assessment for each subject. In certain subjects, however, such as Visual Arts where the validity of the assessment can be enhanced, there may be a higher percentage of school-based assessment.
- 4.16 School-based assessment should not, however, lead to an increase in the student's assessment load, nor should it affect teacher workload unduly. Rather, it will replace existing ongoing assessment, and be so designed that it focuses on the areas of knowledge and skill that cannot be covered through external written examinations.

Standards

- 4.17 The current system of reporting student achievement is what is known as a 'norm-referenced' system. Students are awarded a grade of A-F in each subject with a certain proportion being classified as 'U' (unclassified).

- 4.18 To identify how many marks a student must score in order to receive a given grade, use is made of a ‘control group’ of schools. These are schools that have had stable levels of performance in the examinations over recent years. Analyses are carried out to identify the score on each examination that leads to pre-defined percentages of control-group school students being awarded different grades. These ‘cut scores’ are then used to allocate grades to all students taking the HKCEE and HKALE. In this way, the current system guarantees standards, but the standards are implicit in the performance typically observed in the control group of schools rather than explicitly described in any way.
- 4.19 Put in another way, the current system of reporting is a good system for comparing one student against another, but it is not good at indicating what students know or can actually do.
- 4.20 The new system will continue to report results in ways that allow comparisons among students, thus facilitating selection decisions. But it is proposed that, in addition, the new system will be ‘standards-referenced’ so that it is possible to say what it is that students are able to do and how their performance compares to a defined standard.
- 4.21 This would be achieved by adopting a systematic procedure using teams of experts to:
- identify a set of five clearly identifiable levels of performance;
 - develop a set of descriptors for each performance level; and
 - produce a set of annotated examples of student performance that illustrate the standards associated with each level.
- 4.22 The intention is to establish standards that are appropriate for the full range of students in their sixth year of secondary schooling. Certain levels would be benchmarked to international and current standards to facilitate interpretation and recognition of the new system.

- 4.23 Each year, expert panels will ensure that the standards represented by the five levels remain consistent so that it will be possible to make judgments about any changes in the levels of performance of cohorts of students over time.
- 4.24 Experience overseas indicates that there are significant benefits to all in being able to interpret student achievement in terms of a clearly articulated set of standards. Apart from the obvious value to end-users of the information, it is helpful to students and teachers to know what they need to do to operate at the highest level of performance.
- 4.25 Moving to a ‘standards-referenced’ approach to reporting results does not preclude the use of comparative or ‘norm-referenced’ data. It is proposed that consideration be given to reporting details of the performance of each student in addition to overall performance levels. These details could include the results of each component of the examination for a given subject, together with an index for tertiary selection purposes indicating the relative performance of the candidate in that subject. The underlying intention should be to ensure that, under the new system, more, rather than less, information is available to users.

Senior secondary student learning profile – for whole-person development

- 4.26 The intention of valuing a wider range of student outcomes implies that approaches to recognising achievement across a wider range of outcomes will also be developed. To assist this, a “Senior Secondary Student Learning Profile” is proposed. This profile will build on current good practice in schools, and will record all the learning experiences and the achievements of a student throughout the years of senior secondary schooling. Students can have their learning acknowledged progressively over time, and the profile will serve both as a means to motivate ongoing work, and also as a passport for entry into the world of work, further education and training. Employers and higher education institutions will then have a more complete picture of the achievements and qualities of their potential employees and students.

4.27 The Senior Secondary Student Learning Profile will operate like a folder, into which the formal certification received from HKEAA and other awarding bodies can be inserted. A standard format for the Profile will be produced. This will assist schools in managing its content, and will ensure consistency in usage across schools. Typical contents of the profile might include:

- School internal results by subject
- HKEAA public examination results
- Other achievements and awards gained outside school
- Other learning experiences (e.g. record of community service, sporting and cultural activities and achievements, and personal qualities.)

4.28 The intention is that all students will be given the opportunity to attend three years in the senior secondary school for whole-person development. However, some can be expected to leave before the completion of three years. The Education Commission's RASIH Working Group left open the possibility of offering a credential for early school leavers. Further study of this proposal is needed, but a separate examination at the end of SS2 is not favoured. In the meantime, the design of the curriculum will allow for school-based assessment and reporting during SS2, and the Senior Secondary Student Learning Profile will record the student's attainments up to the point of leaving school.

School to university

4.29 The new system impacts on the way in which students progress from school to university. The main implications of the new system are as follows:

- (a) The curriculum of the universities will need to reflect the fact that students will take 4-year rather than 3-year undergraduate programmes, providing a greater opportunity for a broader education.
- (b) There is likely to be a broader set of criteria for admission.
- (c) Students are more likely to be admitted by faculty rather than by specific departments.

4.30 Details regarding arrangements for tertiary admission will be worked out well before the new system is implemented. A working party has already been established to begin working out these details. The aim is to:

- provide schools and the public with general advice on new admission arrangements during 2004-2005, and
- provide more specific details of requirements for each faculty during 2005-2006.

4.31 Universities have consistently expressed support for the proposals for a 4-year first degree, and are keen to implement the new system as soon as practicable. Their staff members are also part of the curriculum development process for the new subjects, to ensure that the interface between the secondary and tertiary levels of academic learning is coherent and well coordinated.

School to work and further education and training

4.32 Not all students proceed to university. It is important that there are viable and productive alternative pathways that students can follow on completing senior secondary studies that lead to work or to further education and training.

4.33 In particular, articulation arrangements will be organised to facilitate progression from the new HKDSE to various sub-degree vocational and professional qualifications, including associate degrees, higher diplomas and diplomas.

Summary

8. The current HKCEE and HKALE will be replaced by a single credential, the HKDSE.
9. A wider range of approaches to assessment will be used to reflect curricular intentions, including the use of moderated school-based assessments, which will account typically for 20-30% of the total assessment for each subject.
10. A 'standards-referenced' approach will be adopted to enable student performance to be reported with reference to a set of five levels for which a set of descriptors and exemplars is available. Information regarding the relative standing of students will still be available and may include an index for tertiary selection purposes.
11. Each student will have a learning profile in which to record his/her learning experiences and achievements throughout the years of senior secondary schooling. This will motivate their ongoing learning and serve as evidence of their whole-person development to present to future institutions of higher education and to employers.
12. Changes to university admission procedures will be made to reflect the new system and allow for admission with a broader set of criteria.
13. Arrangements will be made to create clear articulation between the new HKDSE and work, further education and training options.

5. Supporting Measures

Introduction

5.1 The proposed changes to the senior secondary education system will be accompanied by a number of supporting measures, including:

- provision of adequate senior secondary school places;
- revision of class size for senior secondary levels;
- re-organisation of class structures;
- revision of teacher-to-class ratios;
- professional development of teachers;
- provision of quality learning materials and textbooks; and
- arrangements for the interface with universities and post-secondary institutions.

Provision of adequate senior secondary school places

5.2 It is accepted that the number and positioning of secondary schools must be constantly reviewed, to take into account the latest population projections and resource implications. At this point in time, the projections indicate no need to build new schools to specifically accommodate the implementation of the new “3+3+4” system.

Revision of class size for senior secondary levels

5.3 The RASIH Working Group assumed a standard class size of 40 students per class. Subsequent to the publication of the RASIH Report, discussions with the sector have revealed that whilst principals might accept the practical arguments for maintaining this class size up to and including the “double-cohort” year, i.e. when the last cohort of S7 students will co-exist with the first cohort of SS3 students, they suggested that the class size

should be revised for subsequent years. There is a proposal to consider allowing class size at senior secondary levels to range from 35 to 40 depending on the actual enrolment. The Junior Secondary Education Assessment System may need to be revised to cater for this proposed change.

Re-organisation of class structures

5.4 The Government's aim is for most students to complete their secondary education in their own school. However, to meet the abilities and interests of the wider student cohort, and the demographic changes taking place across the territory, different class structures will evolve and need to be encouraged, including senior secondary schools.

5.5 Some guiding principles to support class restructuring are suggested as follows:

- As far as possible, there will be minimum disturbance to the existing class structures.
- The supply and demand of secondary school places will be considered on an overall territory-wide basis.
- A progressive approach to class restructuring will be adopted and a case-by-case examination of the school's unique context will also be taken into account before reaching a solution.

5.6 It is expected that in the initial implementation stage, schools with symmetrical and asymmetrical structures will continue to co-exist. While most schools will have a symmetrical class structure, some will have larger groups of students either at the junior or the senior sections of the school to cater for the particular needs of their students.

5.7 So that continuity of curriculum can be assured for students, there will be no "packing" of classes at SS3 (i.e. the number of SS3 classes will be the same as that of SS2 in the preceding year).

5.8 Transitional arrangements such as “floating classes” (where a special room like a science room is necessary for teaching other subjects) may be required to address issues arising from the “double cohort”.

Revision of teacher-to-class ratios

5.9 Currently, the basic teacher-to-class ratios for senior secondary classes are 1.3:1 for S4 and S5 and 2:1 for S6 and S7, whilst split-class teaching entitlement, additional teacher of Chinese, school librarian, additional teachers for remedial teaching, and additional non-graduate teacher under the Education Commission Report No. 5 (ECR5) are provided as top-up provisions.

5.10 In order to streamline administrative procedures and to standardize the initiatives provided to schools, there is a need to rationalize the basic teacher-to-class ratio for the implementation of the “3+3+4” system. We therefore recommend subsuming the top-up provisions provided in the existing staff establishment into a revised teacher-to-class ratio. However, in subsuming the various provisions, two proposals are put forward for consideration:

Either

- (a) Subsuming in the revised teacher-to-class ratios all the following top-up provisions:
 - (i) additional teachers for split-class teaching;
 - (ii) school librarian;
 - (iii) additional teacher(s) of Chinese;
 - (iv) additional teachers for remedial teaching, counselling and extra-curricular activities; and
 - (v) additional non-graduate teachers under ECR5.

Or

- (b) Subsuming the top-up provisions mentioned above with the exception of the additional teachers provided for split-class teaching. This exclusion could support incentive for schools to provide a diversified curriculum. The guiding principles for split-class teaching

arrangement and the calculation for split-class teaching resources would not be based on the current historical arrangements, but will have to be revised in the light of the new senior secondary curriculum.

- 5.11 For both of the above proposals, we will not subsume the various improvement measures provided for the academically low achievers (ALA) and SEN students including the additional teachers provided under School-based Remedial Support Programme (SBRSP), School-based Curriculum Tailoring Scheme (SBCTS) and Integrated Education (IE) into the teacher-to-class ratios to ensure that schools with ALA and SEN students continue to have these extra resources. To support greater flexibility to meet the diverse needs of students, it is proposed that cash grants for these improvement measures be provided based on a per pupil per annum basis. A combined rate for SBRSP and SBCTS and a separate rate for IE will be worked out for eligible schools.
- 5.12 It is also proposed to revise the existing substitute teacher grant to give further funding flexibility to schools to meet their needs in offering a diversified curriculum such as the career-oriented studies.
- 5.13 Moving to new teacher-to-class ratio and additional resources for various purposes may require transitional arrangements for some schools to enable them to move smoothly to the new “3+3+4” system. It is proposed to allow schools with a higher teacher establishment than its entitlement to have a 5-year transitional period to phase out the surplus teachers by natural wastage. For schools with a lower teacher establishment than its entitlement, additional teachers will be provided by phases over a period of five years. It should be noted that there are only a small number of schools where the variation from the new entitlement is relatively large.
- 5.14 The “double-cohort” year poses special problems for teacher supply. An estimated number of around 1200 additional temporary teachers will be required. It is suggested that schools may extend the services of teachers who will retire in the “double-cohort” year, or recruit temporary teachers to meet this transitional demand.

Professional development of teachers

- 5.15 The professional development of teachers is fundamental to successful educational reforms. Apart from taking part in professional development programmes to be provided by the Education and Manpower Bureau (EMB) in collaboration with different institutions, schools are encouraged to formulate staff development plans, organize school-based professional development programmes, and nurture work-based learning culture for their teachers. As lifelong learners, teachers are also encouraged to pursue individual and other self-learning programmes that enhance their knowledge and skills so that they can continue to support student learning.
- 5.16 The Government will encourage teacher education providers to put an appropriate emphasis in their current pre-service and in-service courses on the new 3-year senior secondary curriculum.
- 5.17 Professional development programmes with a wide range of optional studies will be provided to prepare teachers and principals for the change in the whole-curriculum management and specific changes in each subject.
- 5.18 Special emphasis will be given to whole curriculum management, knowledge updating, new learning and teaching approaches to reach the wider cohort, new assessment approaches and the new single examination. Generally speaking, teachers teaching their own subjects will be provided with a minimum of 30 hours professional development. Teachers new to subjects like Liberal Studies will be provided with a minimum of 35 hours professional development supplemented by a range of optional courses suited to the different needs of teachers. All principals, vice-principals or academic masters, and career/student guidance teachers will receive a minimum of 25 hours professional development on curriculum matters related to whole-school curriculum management and, the design of curriculum choices to suit the different aptitudes, interests and abilities of students. A questionnaire will be administered to all schools to obtain data regarding the professional development needs of each school based on its tentative subject choices.

The following principles will be employed to plan the professional development programmes:

- Professional development programmes on interpreting the new curricula, broad learning and teaching approaches, and for subjects requiring a large number of teachers, like Liberal Studies, professional development will commence 3 years in advance of the year of implementation.
- Courses will be repeated for new teachers of the subject on a regular/need basis.
- On-site support will be provided when necessary.
- Course materials will be made accessible to teachers who cannot attend the professional development programmes (e.g. on web, as packages for collection).
- Copies of course materials for professional development programmes will be placed in Resource Centres for reference.
- The programmes will be offered within the framework of Continuing Professional Development (CPD).

Provision of quality learning materials and textbooks

5.19 Measures will be taken to ensure that quality textbooks will be available before the year of implementation for subjects where textbooks are deemed appropriate (see schedule in Table 3 on page 43). Publishers will also be encouraged to develop textbooks under the Textbooks Incentive Scheme in areas where they have shown no inclination to write textbooks due to the assumed small demand in the market. For subjects requiring updated, contemporary information rather than new textbooks to achieve the curriculum aims, learning and teaching resources, guidelines and professional development programmes for teachers will be provided. Providers such as universities, professional and community organisations, and commercial producers are most welcome to contribute.

Arrangements for the interface with universities and post-secondary institutions

- 5.20 New curricula, assessment and public examinations at the senior secondary school level need to be supported by changes to the university admission criteria. The University Grants Committee (UGC) will continue to encourage institutions to broaden their admission criteria and to introduce further flexibility to enable entry through different routes at different levels.
- 5.21 For the UGC-funded institutions, the introduction of 4-year degree programmes will lead to an increase in overall undergraduate enrolment, and therefore of recurrent costs and space requirements. The institutions will be required to draw up campus development plans accordingly.
- 5.22 There will be a double cohort of students entering university undergraduate programmes in the academic year following the first senior secondary public examination for the HKDSE. This will mean that student places in UGC sector will be doubled to cater for both the S7 and the HKDSE graduates. Careful planning will be needed to facilitate the entry of S7 and SS3 students undertaking 3 and 4 year undergraduate degrees respectively.
- 5.23 Post-secondary institutions will also be required to review their programmes including those leading to higher diplomas and diplomas to ensure a better interface with the new system.

6. Funding

- 6.1 As set out in the preceding chapters, in order to cope with the challenges of the 21st Century and the demands of our rapidly developing knowledge based society, our children need to be better prepared for work and study in a more competitive and globalised environment. To maximise the potential of every student, we have to provide access to three years of senior secondary education which offers a diversified curriculum to suit individual aptitude and four years of university education that is of international standard. However, the “3+3+4” reform is going to require commitment of significant resources, in the preparatory stage, the transitional period particularly when there are double cohorts of students, and when the new systems are fully in place. To manage the public finance prudently, it is important to explore feasible financing options, and reach an understanding with the community on the way forward.
- 6.2 Over recent years, the Government has been investing heavily in education. In 2004-05, the approved provision for education is \$59.5 billion, accounting for 23% of the Government’s total expenditure. Recurrent expenditure on education has increased from \$33.8 billion in 1996-97 to an estimate of \$49.2 billion in 2004-05, representing an increase of about 46%. Currently, the Government provides nine-year free education (primary and junior secondary education), heavily subsidises the recurrent cost of senior secondary and higher education, and provides various forms of student financial assistance. In addition, the Government also invests heavily on capital works projects in the education sector (\$6.6 billion in 2004-05).

Government’s fiscal constraints

- 6.3 The Government has been running an operating deficit budget since 1998-99, and the fiscal reserves have dropped by \$182.2 billion from \$457.5 billion as at 31 March 1998 to \$275.3 billion by end March 2004. To improve the fiscal position, the Government has set a target to restore fiscal balance by 2008-09 through boosting economic growth, cutting public expenditure and raising revenue. The Government is also committed to keeping public

expenditure to 20% of GDP or below. In this context of continuing fiscal restraint, the Government intends to meet the costs of the reform through a mix of additional Government funding and tuition fee contribution.

Financial implications

6.4 The financial implications of the “3+3+4” reforms are very sensitive to the size of the secondary student population, which is projected to decline after the 2006/07 school year. The following financial implications are based on current population projections, and assuming that floating classes in secondary schools will remain for some time.

Capital and other non-recurrent costs

6.5 The “3+3+4” reform entails substantive capital investment. It is estimated that about \$3.4 billion will be required for the construction of additional university complexes and facilities to cater for students having an extra year of first-degree programmes. In addition, a one-off expenditure of about \$3.3 billion will be required for developing a new senior secondary curriculum and a four-year undergraduate curriculum, professional development of teachers, and operating additional classes during the transitional peak years.

Recurrent cost in the secondary school sector

6.6 At present, only about one-third of them could proceed from S5 to S6. Under the new academic system, basically all students will progress to SS3. Therefore, the school sector as a whole would need to accommodate more senior secondary students.

- 6.7 However, the overall secondary student population decline would become obvious from the 2008/09 school year and onwards. Current projection is that except for the transitional peak years, the school places freed up by the declining student population should be sufficient to accommodate the additional intake of SS3 students. Consequently, there may not be any need to provide additional school places, on a recurrent basis, on top of those already available or planned. That said, the larger proportion of senior secondary students in the secondary population would mean a net increase in demand for student financial assistance, at an estimated cost of \$20 million per annum.
- 6.8 For 2004-05, the estimated annual recurrent costs for a S4 or S5 place and a S6 or S7 place are \$33,540 and \$58,650 respectively. Existing policy is to recover 18% of cost from tuition fees. As tuition fees have been frozen since 1998, at \$5,050 per annum for S4 or S5 and \$8,750 for S6 or S7, or about \$6,000 on a weighted average basis, they now account for only about 15% of cost.
- 6.9 The Government will continue to heavily subsidise the new senior secondary school places but it remains the Government's policy to gradually bring the tuition fee back to the target recovery level independent of the "3+3+4" reform. The tuition fee is about \$7,200 per annum on a weighted average basis, at current prices. If the increase were to be phased over four years to minimise the financial impact on parents, tuition fees would increase by 5% each year. As at present, Government will continue to provide financial assistance to needy students.

Recurrent cost in the tertiary sector

- 6.10 Moving from a three-year to four-year undergraduate programme, the tertiary sector as a whole will have to provide a net increase of 14,500 places based on the current average student intake. Taking into account the economy of scale as well as the different learning approaches for an integrated four-year programme to be worked out by the tertiary institutions, it is estimated that the tertiary sector would require about \$1.8 billion per annum to fund and sustain the reform on full implementation of the new

undergraduate programme. This amount has to be funded by the community and the Government. Currently, the undergraduate programme is heavily subsidised with the existing tuition fee of \$42,100 per annum. The Government cannot afford the same level of subsidy under a four-year undergraduate programme given the huge financial implications.

A shared funding model

- 6.11 The total capital and non-recurrent costs of the reform are in the region of \$6.7 billion and would be spent over ten years spanning the preparatory stage through full implementation of the new academic system. The amount involved is one-off in nature and spreads over a relatively long period of time. The Government is prepared to set aside public funding for the purposes.
- 6.12 We believe that the benefits to the Hong Kong community and our next generation of students are considerable and propose that a shared funding model be adopted to meet the recurrent costs of the reform, mainly for operating the additional year of undergraduate university programme. The tertiary institutions are expected to achieve maximum cost efficiency in providing the additional year taking into account economy of scale and the new learning approaches of an integrated four-year program. Even so, the reform would entail substantial recurrent cost. If the Government were to shoulder the entire cost, this would have to be at the expense of other education services. This is undesirable. Since the benefits of the reform will accrue to both students and the community, we propose that the cost should also be shared between parents by paying higher tuition fees, and the community through the general revenue of the Government.
- 6.13 It must be stressed that even under a shared funding model, the Government undertakes to ensure that no student would be denied the opportunity to study due to lack of means. We will also explore new arrangements in the student financial assistance schemes to facilitate students' continuing study, for example extending the repayment period of student loans.

- 6.14 In the light of the Government's financial position and parents' affordability, our proposal is to increase university tuition fee from \$42,100 to \$50,000 per annum at current prices, to be effective from the first year of implementation of four-year undergraduate programme⁶. At this tuition fee level, and taking into account also the additional tuition income for an additional year of study at undergraduate level and for a greater number of places at SS3, in overall terms the parents will be contributing about \$750 million of the additional recurrent cost on full implementation of the new academic systems, and the Government the balance of about \$1.1 billion, on top of all capital and other non-recurrent costs.
- 6.15 The "3+3+4" reform is a worthy investment that will bring lasting benefits directly to future generations and assure the social and economic well-being of Hong Kong. We need the concerted commitment and contribution from all parties in order to realise the significant benefits of the reform.

⁶ Assuming that the first year of implementation of SS1 is September 2008, then the tuition fee for four-year university education will commence in the 2011/12 academic year. In other words, students who are now in P6 will be the first cohort under the new "3+3+4" academic system.

7. Critical Milestones

7.1 Preparation for successful implementation of such a large reform requires time, and the detailed, coordinated effort of all those involved.

Guiding principles

- (a) A minimum lead time of 4 years is necessary to have the critical conditions for the reform in place, as agreed with the councils of secondary schools;
- (b) There will need to be parallel developments and combined thinking and action in key areas. This will require effective communication between all those participating, and effective consultation with stakeholders at critical stages.

7.2 The EMB has already been working at the professional level (with the CDC, HKEAA and joint CDC-HKEAA subject committees, representatives of school councils, and with various tertiary institutions,) since the end of last year. This on-going professional dialogue and communication has provided the basis for soliciting feedback from the public on the implementation details.

7.3 In view of the need for a minimum lead time of 4 years, the proposed critical milestones for key actions in the preparation for the reform shown in Table 3, are premised on the assumption that the new SS1 level will be implemented in September 2008, the earliest possible date. In this circumstance, students who are now in P6 will be the first cohort under “3+3+4”.

**Table 3:
Proposed critical milestones for key actions**

Key Actions	Year -4 (2004)	Year -3 (2005)	Year -2 (2006)	Year -1 (2007)	Year 0 (2008)
Policy on “3+3+4”	Public feedback on design blueprint, timetable and financing	Final report by March			First cohort of new SS1 students in September (Entry to 4-year first degree at university in September 2011)
Curriculum Design	First consultation on curriculum aims and the design of subjects	Finalize curriculum aims and design for all subjects Second consultation of CDC-HKEAA Curriculum and Assessment Guides	Completion of CDC-HKEAA Curriculum and Assessment Guides for all subjects in May		
Assessment and Examination		Initiate School-based Assessment framework Development of Standards-referenced Assessment		Consultation on examination rubrics, sample questions/ papers in February Handbook to schools in August	
Textbook and Learning/ Teaching Resources		Textbook writing starts Start developing learning/ teaching resources			Recommended textbooks available to schools by February Learning/ teaching resources available

Key Actions	Year -4 (2004)	Year -3 (2005)	Year -2 (2006)	Year -1 (2007)	Year 0 (2008)
University admission criteria	Initial information on university admission criteria to schools	Specific university admission criteria to schools			
Professional development		Professional development programmes for teachers & principals will be undertaken in a timely manner to ensure adequate preparation for the change.			
Class re-structuring	Discuss with schools on a case-by-case basis, using a 3-year approach in planning class structure, starting when the year of implementation is finalised.				
Staff establishment	As agreed and implemented for the transition and ongoing years.				

8. Feedback

The Government seeks your views on the implementation of a new senior secondary and tertiary education system as set out in this document. You may respond to any one or all of the questions. We encourage you to support your responses with brief explanations.

Intentions

- (a) Do you think the proposed curriculum, assessment and articulation pathways will help address the needs of a modern society and help Hong Kong maintain competitiveness in the context of globalisation and rapid development in Mainland China?

Curriculum design

- (b) Should the curriculum have a compulsory core of Chinese Language, English Language, Mathematics and Liberal Studies, making up around 50% of each student's programme of learning?
- (c) Does the remaining 50% of the proposed curriculum provides for a wide enough range of achievement, interest and whole-person development (well-rounded students)?

Assessment and reporting

- (d) Do you support the new approach to assessment, i.e. the adoption of standards-referenced assessment offering clear information on what a student knows and is able to do, and which also involves broadening the ways in which student performance is assessed?
- (e) Do you agree that norm-referenced information on a wide range of achievements for each student should also be available for selection purposes, in addition to the standards-referenced information on student performance?

- (f) Should the adoption of a school-based assessment component externally moderated be applied across all subjects to complement written examinations?
- (g) Are there any important elements missing from the list of suggestions made for inclusion in the proposed Senior Secondary Student Learning Profile?

Supporting measures

- (h) Is there anything of importance that is not addressed in the supporting conditions that is necessary or supportive to carry out the changes?

Funding arrangement

- (i) Do you support the model proposed for sharing the funding of the “3+3+4” system?

Implementation

- (j) Do you agree to implement the “3+3+4” system in September 2008? If no, which year do you think is more appropriate?
- (k) Have any significant milestones in the scheduling of the implementation of “3+3+4” been left out?

Others

- (l) Are there any other matters you wish to draw attention to?

Appendix 1: Glossary

This glossary covers some special terms used in the document.

Term	Description
Biliterate	Capable of reading and writing effectively in Standard Written Chinese and English
Career-Oriented Curriculum	A curriculum that provides students with opportunities to explore their career aspirations in specific areas, and to prepare themselves for lifelong learning.
CDC-HKEAA Committee	A CDC-HKEAA Committee is a special integrated group set up to work on a public examination subject on a needs basis to carry out tasks designated by CDC and HKEAA.
Core subjects	Chinese Language, English Language, Mathematics and Liberal Studies
Current senior secondary academic system	The 4 years of study from S4-7
Curriculum and Assessment (C&A) Guide	A guide prepared by the CDC-HKEAA Committee. It embraces curriculum aims/objectives/contents and learning outcomes, and assessment guidelines.
Elective subjects	A total of 20 subjects in the proposed new system from which students may choose (see Table 2).

Key Learning Area (KLA)	The major domains of knowledge used to structure the school curriculum. The Hong Kong curriculum has eight KLAs, namely, Chinese Language Education, English Language Education, Mathematics Education, Personal, Social and Humanities Education, Science Education, Technology Education, Arts Education and Physical Education. Every student should have a learning programme covering all the KLAs.
New 3-year senior secondary academic system	The new 3 years of study SS1, SS2 and SS3 that build on the 3-year junior secondary curriculum is equivalent to the current S4-6.
Norm-referenced assessment (NRA)	Students' results are graded by comparing students one with another in a cohort taking the examination, rather than against predetermined standards setting out what they have to achieve. Grades are awarded with reference to the performance of the whole cohort taking the examination in the same year.
Other learning experiences	These experiences include moral and civic education, community service, career-related experiences (e.g. such as job attachment), and physical and aesthetic activities.
Project Yi Jin	Project Yi Jin is a special programme for S5 leavers or youths aged 21 or over, to help them obtain a qualification equivalent to 5 passes in HKCEE.

Qualifications Framework

The Qualifications Framework is a seven-level hierarchy of qualifications. It is designed to cover all sectors of education to facilitate the interface between academic and vocational areas. Each level is characterised by generic level descriptors of the common features of qualifications at that level. Qualifications encompassed in the framework are outcome-based. The outcome standard of qualifications is mainly the knowledge and skills in the academic sector. The outcome standard of qualifications in the vocational sector is in the form of competencies set by the industry.

School-based Assessment (SBA)

Assessments administered by teachers in schools which complement and/or supplement the knowledge/skills/attitudes tested in public examinations.

Senior Secondary Student Learning Profile

A record of the overall achievements of students throughout the 3 years of senior secondary schooling.

Standards

Descriptors and exemplars used to describe what students have to know and are able to do to merit the award of a particular level or grade. There is a progressive scale of standards, from a low performance to the highest level of performance.

Standards-referenced assessment (SRA)

Student performance is matched against a pre-set standard, which sets out what the student has to achieve. SRA provides information to students, parents and educational institutions about what the students needs to do to achieve the highest standards.

Teacher-to-class ratio

A number used to calculate the staffing establishment of each school. It represents the number of teachers assigned for teaching one class. In the current academic system, the ratio is 1.3:1 for S4 and S5, and 2:1 for S6 and S7.

Trilingual

An ability to use Cantonese, Putonghua and Spoken English effectively

Appendix 2: An Extract from the Curriculum Framework of Liberal Studies (1st draft)

Introduction

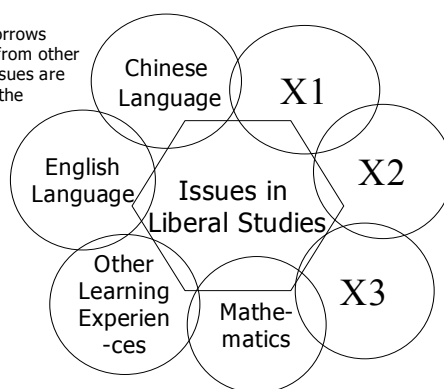
1. To prepare students for the challenges of life in today's world, it is necessary to look for new ways of educating the young. Students need to be equipped with a broad base of knowledge, high adaptability, independent thinking and an ability to engage in lifelong learning in a rapidly changing society and knowledge-based economy.

2. Liberal Studies is a core subject in the New Senior Secondary Curriculum. It aims to broaden the students' knowledge base and enhance their social awareness. It adopts an issue-enquiry approach, which helps liberate the minds of students by having them study a wide range of issues and encouraging them to find out information themselves and develop their own opinions. It helps students understand complex issues in contemporary society, in the nation and in the world. Students are encouraged to draw knowledge from different disciplines in the analysis of the issues, and to develop their own views, construct personal knowledge, and become critical thinkers.

3. The proposed curriculum is a modification and extension of the existing ASL Liberal Studies, which also adopts an enquiry approach to learning and teaching. Capitalizing on its strengths, the proposed New Senior Secondary Liberal Studies curriculum further widens students' horizons by examining a wide range of issues. The issues selected are significant to student life, to society and to the world, and have potential in linking different realms of knowledge. The learning experience provided through Liberal Studies will be appropriate to all senior secondary students and essential for them in becoming lifelong learners.

Liberal Studies interactively borrows knowledge and perspectives from other subjects to enrich its study. Issues are chosen so that students have the opportunity to:

- connect knowledge & concepts across different disciplines
- expand perspectives beyond single disciplines
- study contemporary events not covered by any single disciplines



Rationale

4. Liberal Studies provides obvious and rich opportunities for students to make explicit connections among different disciplines, examine issues from multi-perspectives, and construct personal knowledge with this experience. In doing so, this unique subject develops independent learning and cross-curricular thinking. Through exploring issues relevant to the human condition in a range of contexts, Liberal Studies equips students to understand the contemporary world and its pluralistic nature. Together with other core subjects and more specialized elective subjects, it helps achieve a balance between breadth and depth in the school curriculum.

5. Aiming at the liberation of the young mind, Liberal Studies plays an indispensable role in terms of the goals of the reformed senior secondary curriculum: a broad knowledge base for students, an understanding of important contemporary issues on different levels, helping students to become informed and responsible citizens. The learning experience Liberal Studies provided is crucial for students to become critical, reflective and independent thinkers.

6. The independent thinking, social awareness and adaptability to change which Liberal Studies seeks to cultivate in students provide a useful foundation for further studies, future employment and a life of fulfilment.

7. Hong Kong experience in curriculum development since the 1970s has built up good strengths in the use of the issue-enquiry approach. Besides the experience of ASL Liberal Studies, schools have also accumulated good practices on cross-curricular studies, such as civic education and thinking skills programmes. The recent introduction of Integrated Humanities (S4-5) and Science and Technology (S4-5) into the Hong Kong school curriculum further enriches the pool of resources and pedagogical knowledge relevant to the implementation of Liberal Studies in the new senior secondary curriculum.

8. The design of the subject has taken account of overseas experiences in cross-disciplinary studies related to critical thinking, life education, values education and civic education, giving due consideration to their relevance to the Hong Kong context.

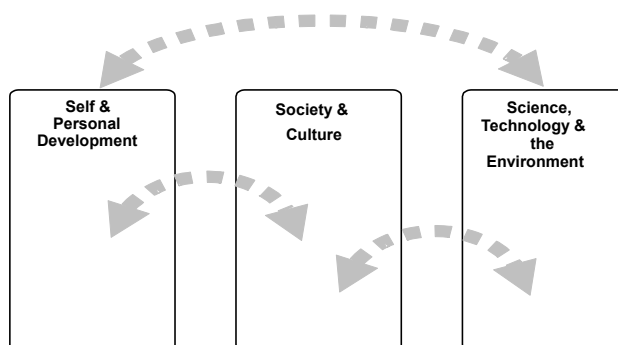
9. The development of the Liberal Studies curriculum will be an on-going process, responsive to the changing context of student life and developments in society. The design will provide space for updating in the future.

Curriculum aims

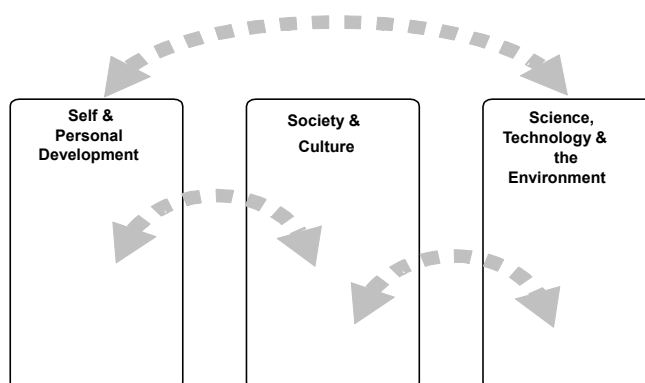
10. The aims of Liberal Studies at the Senior Secondary level are:
- (a) to enhance students' understanding of themselves, their society, their nation and the world;
 - (b) to enable students to develop multi-perspectives on perennial and contemporary issues in different contexts (e.g. cultural, social, economic and political contexts);
 - (c) to help students become independent thinkers so that they can construct knowledge appropriate to their own changing personal and social circumstances;
 - (d) to develop in students a range of skills for lifelong learning, including critical thinking skills, creativity, problem solving skills, communication skills and information skills;
 - (e) to help students appreciate and respect diversity in cultures and views in a pluralistic society and handle conflicting values; and
 - (f) to help students develop and reflect on their own values, so that they are able to defend their own decisions, judgments and convictions, and to become informed and responsible citizens in their community, nation and the world.

Curriculum framework

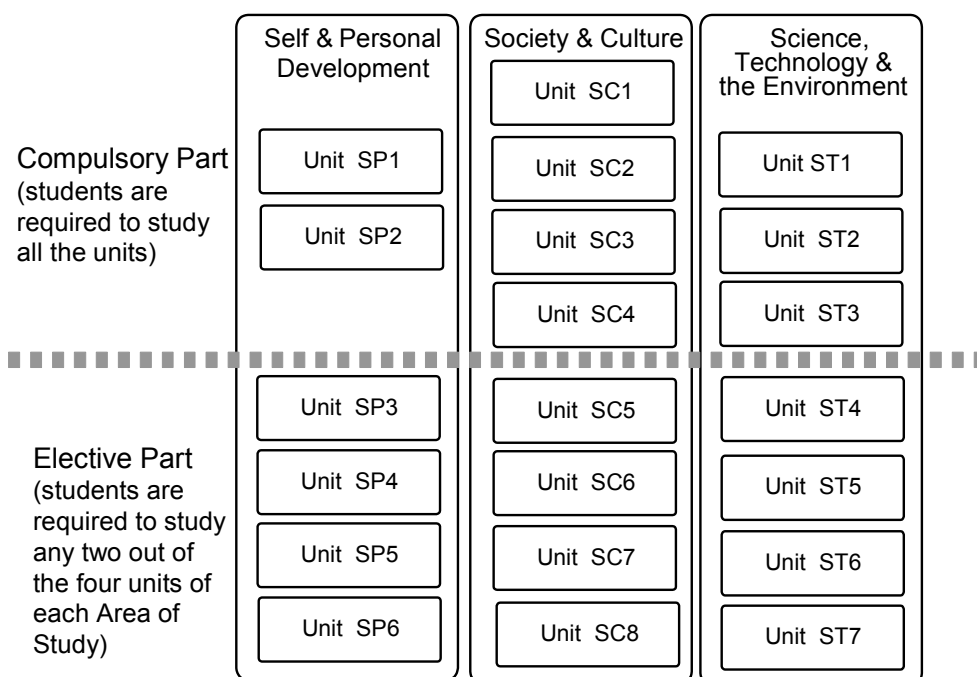
11. The curriculum comprises three Areas of Study, namely 'Self and Personal Development', 'Society and Culture' and 'Science, Technology and the Environment'. The three Areas of Study represent broad areas of concern about the human condition and the contemporary world. They will serve as platforms for the enquiry of related issues, so that students can appreciate the connections between concepts and develop a more coherent understanding of the world. The three Areas of Study should not be taken as independent fields of knowledge or self-contained disciplines. Students should be encouraged to look for interconnectedness among them and apply the perspectives developed in one area to the study of the others.



12. The curriculum also requires students to conduct an ‘Independent Enquiry Study’ on an issue of their own choice, which will involve related concepts, knowledge and perspectives learned during the course of study.



13. Each of the three Areas of Study is divided into a compulsory part and an elective part. The compulsory part embodies issues and ideas essential to the understanding of the area. For the elective part, units are chosen to cater for student diversity in interests and needs. They should extend and enrich the understanding gained through the compulsory units. For each Area of Study, four elective units are proposed, out of which students will be required to study two. More elective units may be developed in the future to keep the curriculum up-to-date with developments in the world and to cater for students’ varied interests and needs.



14. It is intended that by having a balanced exposure to these areas, students will not only develop an awareness of the important issues facing the world, but also acquire a broad knowledge base to establish connections across different areas and units in the curriculum. The ‘Independent Enquiry Study’ will further enhance students’ ability to integrate knowledge and skills developed through the three Areas of Study.

15. The Area of Study on ‘Self and Personal Development’ focuses on issues that have relevance to students at a personal level. It aims at helping students to develop an understanding of themselves and a positive outlook on life. ‘Society and Culture’ focuses on the human condition in social and cultural contexts. Students will look into the development of the local community, the nation and the world and their cultural features. ‘Science, Technology and the Environment’ focuses on the development of society in relation to the physical world and advances in technology. It will also cultivate an awareness of the impact of technology and human activity on the environment.

16. Units in each Area of Study are designed to provide exposure to different aspects of the area. Each unit focuses on one scope of the area. The units do not correspond to any single specific traditional subject discipline, but rather draw from different fields of knowledge and borrow perspectives from different cultures, professions, social groups, etc.

17. Issues are chosen for each unit and are presented in the form of guiding questions that are intended to highlight the issue-enquiry approach for learning and teaching. Exploration of these issues provides students with opportunities to pose questions, search for information, formulate arguments, and in the process to develop reasoning skills and a familiarity with a variety of viewpoints. There is no intention to provide students with sets of fixed factual knowledge, but rather to encourage students to appreciate the complexity of the contemporary world and to develop critical thinking skills.

18. Issues chosen should embody competing views and values that stimulate discussion and reflection. They should be significant to personal growth and/or the development of society. They should also appeal to a range of student interests, and develop their intellectual ability for lifelong learning. Self-directed study on the issues using a variety of available resources should be encouraged.

19. The Independent Enquiry Study provides an invaluable opportunity for students to learn to become self-directed learners responsible for their own learning. By pursuing an independent study on an issue of their own choice, students are enabled to explore their interests and enhance their independent learning skills. Reading, simple investigation, and the use of personal experience related to the chosen issue can all be part of an Independent Enquiry Study.

20. In summary, the curriculum framework for Liberal Studies is designed to ensure that senior secondary students experience a broad and interconnected education. The units of the three Areas of Study broaden their knowledge base and enhance their social awareness. After studying Liberal Studies, students will have developed a deeper and more multi-faceted understanding of self, society, the nation, and the natural and human world. The enquiry of contemporary issues within each area and the Independent Enquiry Study will help students to make meaningful connections across different disciplines, develop an understanding of a range of viewpoints, and construct their personal knowledge. The learning experiences provided in Liberal Studies will help students to become informed, responsible citizens and independent thinkers.

21. The table shows the proposed curriculum structure for Liberal Studies.

Area of Study	Compulsory Part	<u>Elective Part</u> (Select any TWO units from this part of each Area of Study.)	Independent Enquiry Study
Self & Personal Development	SP1: Understanding Oneself SP2: Interpersonal Relationship	SP3: Adversities in Life SP4: Sports & Health SP5: Art & Life SP6: Leisure & Life	A study on an issue of the student's own choice. The issue chosen should be related to the concepts, knowledge and perspectives learned during the course of study.
Society & Culture	SC1: Life in Hong Kong under 'One country, Two Systems' SC2: Development of Modern China SC3: Globalisation in a Diversified World SC4: Chinese Cultural Heritages in the Modern World	SC5: Religion & Society SC6: Media & Society SC7: Chinese Way of Life in the Global Society SC8: Peace & War in the Modern World	
Science, Technology & the Environment	ST1: Diseases & Public Health ST2: Information Technology & Society ST3: Pollution & the Environment	ST4: Biotechnology & Ethics ST5: Space Exploration & Society ST6: Transport & Technology ST7: Energy & Resources	

(For further details, please refer to <http://www.emb.gov.hk>)