

Applied Learning

Curriculum and Assessment Guide

(Senior Secondary Level)

Jointly prepared by the Curriculum Development Council and the Hong Kong Examinations and Assessment Authority

2009 (with updates in November 2015)

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Preamble

The Education Bureau stated in the report *The New Academic Structure for Senior Secondary Education and Higher Education – Action Plan for Investing in the Future of Hong Kong* (2005) that the implementation of a three-year senior secondary academic structure would commence at Secondary 4 in September 2009. The senior secondary academic structure is supported by a flexible, coherent and diversified senior secondary curriculum aimed at catering for students' varied interests, needs and abilities. Applied Learning is part of the senior secondary curriculum. This Curriculum and Assessment Guide is one of the series of documents prepared for the senior secondary curriculum. The Guide is based on the goals of senior secondary education and on other official documents related to the curriculum and assessment reform since 2000, including the *Basic Education Curriculum Guide* (2002) and the *Senior Secondary Curriculum Guide* (2009).. To gain a full understanding of the connection between education at the senior secondary level and other key stages, and how effective learning, teaching and assessment can be achieved, it is strongly recommended that reference should be made to all related documents.

Applied Learning courses are elective subjects within the senior secondary curriculum. Students' achievement in Applied Learning is reported in the Hong Kong Diploma of Secondary Education. Its value is to be conferred by the wider community where the conditions which sustain the trust of the community are also those which assure the quality of Applied Learning, such as: effective stakeholder involvement, a motivating curriculum, responsive institutions, competent teachers, good careers guidance and pastoral support, and the development of strong linkages to further education and employment. In brief, the quality assurance of Applied Learning involves:

a process of establishing stakeholder confidence that provision (input, process and outcomes) is fit for purpose and meets agreed requirements.

With this in mind, this Curriculum and Assessment Guide has been designed to map out a blueprint for Applied Learning and its six areas of studies, in order to:

- guide *course providers* in the design of Applied Learning courses;
- inform *schools* of the nature and structure of Applied Learning and the courses offered to facilitate curriculum planning;
- inform *students and their parents* of the nature of Applied Learning courses and the standards embedded within the courses to help them make informed choices; and
- inform the *general public* of the nature of Applied Learning courses and the standards embedded within the courses.

It aims to:

- provide sufficient guidelines for course providers to design Applied Learning courses, while allowing them enough space to innovate using their expertise; and
- provide clear and concise information for schools, students and the general public on the essence of Applied Learning and on concrete details within individual courses.

This Curriculum and Assessment Guide should also be read in conjunction with other documents related to the principles underpinning Applied Learning, such as the report *Action for the Future – Applied Learning (formerly known as Career-oriented Studies)* and the *New Senior Secondary Academic Structure for Special Schools* (2006).

This Curriculum and Assessment Guide was jointly prepared by the Curriculum Development Council and the Hong Kong Examinations and Assessment Authority in 2009, and overseen by the Curriculum Development Council Committee on Applied Learning¹. Updating is made to align with the medium-term recommendations of the New Academic Structure review made on curriculum and assessment. The membership of the Curriculum Development Council Committee on Applied Learning includes heads of schools, practising teachers, professionals from tertiary institutions, trade and industry, representatives from the Hong Kong Examinations and Assessment Authority and the Hong Kong Council for Accreditation of Academic and Vocational Qualifications, as well as officers from the Education Bureau.

To reflect the social, economic and technological needs of the local society and global trends, Applied Learning courses will be constantly reviewed. Details of the Applied Learning courses to be offered are available at the website of Applied Learning (www.edb.gov.hk/apl). All comments and suggestions on this Guide may be sent to:

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¹ The Preparatory Applied Learning Committee migrated to the Curriculum Development Council Committee on Applied Learning in the 2008/09 school year.

Chapter 1 Introduction

This chapter provides the background, rationale and aims of Applied Learning courses as elective subjects in the three-year senior secondary curriculum, and highlights how Applied Learning articulates with other senior secondary subjects and learning experiences, basic education and post-secondary career pathways.

1.1 Background

In response to the learning needs of students, the documents *Learning for Life, Learning through Life: Reform Proposals for the Education System in Hong Kong* (2000) and *Learning to Learn* (2001) highlighted the need for a broad and balanced curriculum to cater for students' different interests, learning styles and inclinations. In line with this, the Education Bureau has been exploring the viability of introducing diversified options in the curriculum at senior secondary level. The piloting of Applied Learning, as an example of this exploration, was first introduced in 2003.

The report *The New Academic Structure for Senior Secondary Education and Higher Education – Action Plan for Investing in the Future of Hong Kong* (2005) stated that Applied Learning (formerly known as Career-oriented Studies) is an integral part of the senior secondary curriculum that will match the interests and abilities of all students. The report *Action for the Future – Applied Learning (formerly known as Career-oriented Studies) and the New Senior Secondary Academic Structure for Special Schools* (2006) summarises the concerns and feedback from various stakeholders on the purpose and position of Applied Learning in the senior secondary curriculum, the design of its curriculum, course provision and guidance for students, recognition and quality assurance, professional development and funding, and charts the way forward for the implementation of Applied Learning.

1.2 Rationale

Applied Learning has been introduced into the senior secondary curriculum to diversify the learning opportunities available to students. It is intended to enrich the learning experiences of students of varying learning needs, particularly those who will benefit from a strong practical orientation in their learning. This orientation can also be applied to the learning and assessment of the core subjects, i.e. Chinese Language, English Language, Mathematics and Liberal Studies.

Applied Learning is an integral part of the senior secondary curriculum, complementing senior secondary subjects by offering studies with stronger

elements of practical learning linked to broad professional and vocational fields. Applied Learning courses:

- offer practical contexts and content designed to engage and motivate students who learn more by doing than conceptualising;
- include content that is designed to challenge students and provide options for both academic and career progression; and
- adopt an organising structure of six areas of studies relevant to broad trends in professional studies and the world of work in Hong Kong. Each area of studies provides foundation knowledge and concepts necessary for keeping abreast of knowledge and practices in that area.

Applied Learning courses are not intended to provide pre-vocational training. They will instead help achieve the five essential learning experiences² and develop the generic skills³ that underpin Hong Kong's curriculum framework. Course provision aims for a balance between breadth and depth in Applied Learning and for lateral coherence within the senior secondary curriculum.

1.3 Curriculum Aims

Applied Learning aims to:

- enable students to understand fundamental theories and concepts through application and practice, and to develop their generic skills in authentic contexts; and
- provide students with opportunities to explore their career aspirations and orientation for lifelong learning in specific areas.

1.4 Interface with the Junior Secondary Curriculum and Post-Secondary Pathways

In basic education, students acquire a foundation of knowledge, skills and values across Key Learning Areas. They also receive guidance and advice to help them make informed choices among elective subjects, including Applied Learning courses, in their senior secondary studies. Through the career-related context of Applied Learning courses, students have the opportunity to become familiar with a variety of professions and trades. Understanding the knowledge, skills and workplace requirements within a professional field helps students develop their career aspirations. For further

² The five essential learning experiences include moral and civic education, intellectual development, community service, physical and aesthetic development and career-related experiences.

³ The generic skills are communication skills, critical thinking skills, creativity, collaboration skills, information technology skills, numeracy skills, problem-solving skills, self-management skills and study skills.

discussion on the connection between Applied Learning and other senior secondary subjects, please refer to Chapter 3.

1.5 Cross-curricular Links

Applied Learning courses complement other senior secondary subjects. The courses can offer new content and pedagogical approaches to attract students, effectively adding to the senior secondary menu of subjects. They can deepen students' understanding of a senior secondary elective subject by significantly extending that subject through practical applications. They can also supplement other senior secondary subjects by adding major new dimensions to them. For details about how cross-curricular links can be achieved through curriculum planning and development, please refer to Chapter 3.

Chapter 2 Curriculum Framework

In Applied Learning, it is intended that courses should stretch students' potential talents with opportunities to develop their knowledge, skills, and values and attitudes in different contexts based on or approximating real life. The curriculum frameworks for Applied Learning and the six areas of studies form the basis on which course developers and providers can design their courses and design appropriate learning, teaching and assessment activities.

2.1 Design Principles

To provide a sound learning platform for students, Applied Learning courses are designed according to the core principles of balance, coherence, articulation and responsiveness.

Applied Learning is built upon students' learning in basic education delivered through the eight Key Learning Areas. However, different organisers are used in Applied Learning to reflect its practical and applied context.

The design principles are reflected in:

- **diverse learning programmes** that have not been taught traditionally in schools, but are relevant to the social, cultural and economic development of Hong Kong;
- **extended learning environments** that are available to senior secondary students through tertiary institutions and workplaces;
- **initial experience of the requirements of a vocational field** which serves as a context to advance more generic learning and prepares students for possible post-secondary pathways;
- **an applied and practical context** for learning, teaching and assessment, supported by relevant knowledge;
- **substantive learning outcomes** which are part of the Hong Kong Diploma of Secondary Education; and
- **coherence with other senior secondary subjects** which have similar expectations in languages, numeracy, generic skills, and values and attitudes.

Different courses are offered under the six areas of studies in Applied Learning:

- *Creative Studies*
- *Media and Communication*
- *Business, Management and Law*
- *Services*
- *Applied Science*
- *Engineering and Production*

The six areas of studies are introduced to give broad categories of Applied Learning courses. It is not intended to set boundaries for Applied Learning. Applied Learning courses can cover topics in two or more areas.

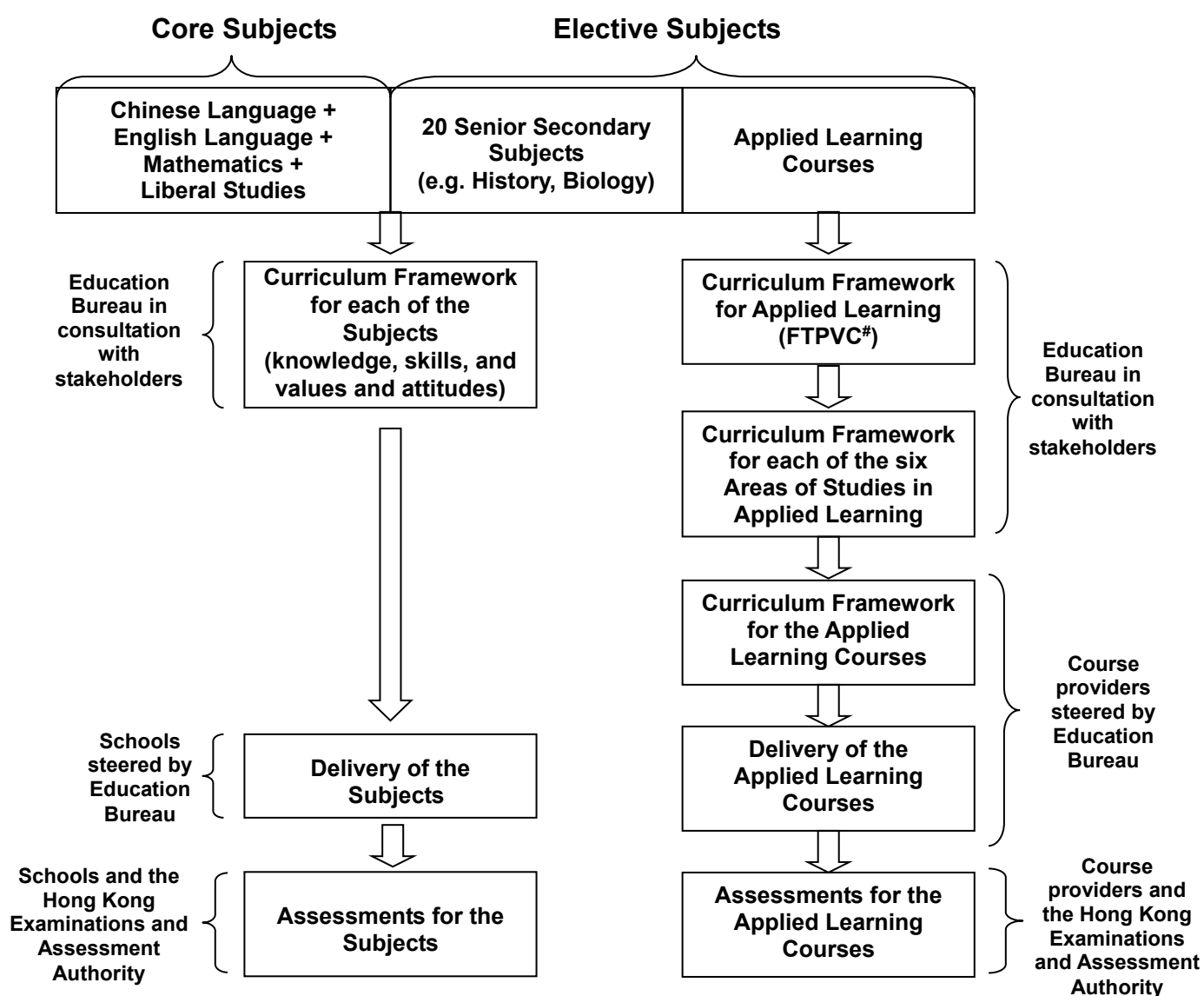
2.2 Curriculum Framework

The curriculum framework for Applied Learning can be broadly divided into three layers:

<u>First Layer:</u>	Applied Learning Layer	which sets out the five essential curriculum pillars of Applied Learning
<u>Second Layer:</u>	Areas of Studies Layer	which prescribes the characteristics of each area of studies in Applied Learning. This layer is mainly characterised by the curriculum pillar on “Career-related Competencies”.
<u>Third Layer:</u>	Applied Learning Course Layer	which involves the design of an Applied Learning course with a chosen context

The first and second layers are developed by the Education Bureau in consultation with stakeholders, and the third layer is developed by course providers monitored by the Education Bureau and quality assurance agencies. A comparison between the curriculum development of Applied Learning courses and that of other senior secondary school subjects can be depicted as follows:

Curriculum Design, Delivery and Assessment of Senior Secondary Subjects and Applied Learning Courses



- # F - Foundation Skills
 T - Thinking Skills
 P - People Skills
 V - Values and Attitudes
 C - Career-related Competencies

First Layer – Curriculum Framework for Applied Learning

The first layer of the curriculum framework for Applied Learning comprising the five essential *curriculum pillars* to be developed in different vocational fields as learning contexts can be depicted as follows:

<i>Lifelong Learning for Further Studies and/or Work</i>	
<i>Foundation Skills</i>	<i>Thinking Skills</i>
<i>People Skills</i>	<i>Values and Attitudes</i>
<i>Career-related Competencies</i>	
<i>Different Vocational Fields as Learning Contexts</i>	

The five *curriculum pillars* of Applied Learning are elaborated as follows:

1. Career-related Competencies

- understanding the knowledge, skills and workplace requirements within a vocational field; and mastering the knowledge and skills specific to the course, through:
 - understanding the context of the course within the wider area of studies;
 - understanding and interpreting workplace requirements through practising the basic skills in an authentic or near authentic environment; and
 - developing and applying conceptual, practical and reflective skills to demonstrate innovation and entrepreneurship.

Performance Example:

understanding the context of the course within the wider area of studies:

- show awareness derived from the provision of information and experiences related to the cluster of professions/trades/industries being studied; and show knowledge of career pathways offered within the area of studies; and some understanding of the future global and local outlook of the chosen pathways;
- master the relevant beginners' skill set for the chosen area of studies such as mastery of the labels, terminology, facts and skills, derived through observation and practice; and
- discuss the intra- and inter-dependency factors within and beyond the area (including relations with core subjects, other elective subjects, and with other areas of studies and courses of Applied Learning), building upon the knowledge acquired in basic education.

Performance Example:

understanding and interpreting workplace requirements through practising the basic skills in an authentic or near authentic environment:

- have opportunities to explore, experience and try out tasks in an authentic or near authentic environment, e.g. practice learning within at least one representative domain related to the course;
- experience the workplace requirements through practice;
- acquire the fundamental knowledge and skills essential to enable further learning within the area; and
- transfer learning to unfamiliar situations within related domains.

developing and applying conceptual, practical and reflective skills to demonstrate innovation and entrepreneurship:

- be provided with an encouraging learning environment to conceptualise learning, which is not limited to learning in Applied Learning courses but also embraces the learning in other core and elective subjects, to turn it into content-free generic concepts and to apply the concepts in solving a problem(s) they face in their daily experiences (e.g. global warming, food safety, selection of programmes for further studies, national identity);
- transfer learning to new environments;
- demonstrate the understanding of key issues in a chosen domain, including cultural aspects;
- discuss the global and local environment in that particular domain; and
- suggest and illustrate opportunities for learning, development, etc related to the course.

2. Foundation Skills

- communication skills (including languages), such as understanding, developing and communicating ideas and information and interacting with others;
- numeracy skills, such as integrating and applying numerical and spatial concepts and techniques; and
- information technology skills, such as using and adapting technologies.

Performance Example:

communication skills (*including languages*), such as understanding, developing and communicating ideas and information and interacting with others:

- make an oral presentation on areas such as project plans or findings to a target audience;
- prepare written work such as a proposal or report for a target audience; and
- develop a multimedia presentation, combining text, images, and/or sound to convey messages.

numeracy skills, such as integrating and applying numerical and spatial concepts and techniques:

- use mathematical ideas, techniques and language in a work-related task;
- interpret algebraic relations from numerical, symbolic and graphical perspectives;
- use knowledge of measures, shape and space to formulate and solve two-dimensional and three-dimensional problems; and
- handle data and apply knowledge in statistics to identify central tendencies and dispersion.

information technology skills, such as using and adapting technologies:

- use technology in an authentic work environment to exchange information for specific purposes;
- use the latest available technology to produce text as well as multimedia documents; and
- store, retrieve and analyse text and non-text data systematically by using electronic tools such as a relational database, an electronic worksheet.

3. Thinking Skills

- problem-solving and decision-making skills, such as identifying problems and providing appropriate solutions, taking into consideration social, economic and technological developments;
- analytical skills, such as recognising when and what information is needed, locating and obtaining it from a range of sources and evaluating, using and sharing it with others;
- creative thinking skills, such as visualising consequences, thinking laterally, recognising opportunities and potential, testing multiple options, and engaging with the artistic, cultural and intellectual work of others; and
- understanding interdependency and relationships between different areas of studies, societies and civilisations to form regional/global perspectives on social, economic and technological changes, such as describing patterns, structures and relationships, and making and interpreting predictions.

Performance Example:

problem-solving and decision-making skills, such as identifying problems and providing appropriate solutions, taking into consideration social, economic and technological developments:

- create alternative solutions by creative thinking, logical reasoning, analysis, etc; and
- apply appropriate problem-solving strategies and critical thinking skills to work-related issues and tasks, including:
 - understanding systematic problem-solving models that incorporate inputs, processes, outcomes and feedback; and
 - applying trouble-shooting strategies to analyse failure and implementing strategies for improvement, supporting the evaluation with evidence.

analytical skills, such as recognising when and what information is needed, locating and obtaining it from a range of sources and evaluating, using and sharing it with others:

- identify potential sources and use appropriate techniques to collect data;
- transfer data into information in line with defined purposes;
- use the information to complete tasks such as project work; and
- interpret and analyse the information, evaluating it for completeness, relevance, and validity.

Performance Example:

creative thinking skills, such as visualising consequences, thinking laterally, recognising opportunities and potential, testing multiple options, and engaging with the artistic, cultural and intellectual work of others:

- carry out environmental scans to expose threats and opportunities;
- develop alternative scenarios and play out their implications (wearing different hats);
- identify and weigh the advantages and disadvantages of options to arrive at an optimal pathway;
- project alternative designs or plans; and
- seek and envisage other intellectual assumptions or cultural perspectives to critique one's own ideas and values.

understanding interdependency and relationships between different areas of studies, societies and civilisations to form regional/global perspectives on social, economic and technological changes, such as describing patterns, structures and relationships, and making and interpreting predictions:

- understand how cultural perspectives affect the definition of goals or outcomes and influence their achievement;
- explain how historical influences affect current developments within the area of studies;
- predict future developments in the area by applying regional/global trends elsewhere; and
- show how changes in one factor (e.g. demography) can affect other factors (e.g. consumer behaviour and markets).

4. People Skills

- self-reflection and self-management skills, such as setting schedules of tasks for completion, and reflecting on goals and targets set;
- interpersonal skills, such as interacting with other people and cultures, and contributing to the community; and
- collaborative and team building skills.

Performance Example:

self-reflection and self-management skills, such as setting schedules of tasks for completion, and reflecting on goals and targets set:

- establish expectations of achievement and seek and respond to feedback from others;
- consult with and observe peers and adults at work;
- understand one's own emotions and values, and how to control or redirect one's internal states and resources;
- identify models that embody qualities for success; and
- review progress and adjust priorities to meet deadlines.

interpersonal skills, such as interacting with other people and cultures, and contributing to the community:

- respect differences in cultures and backgrounds;
- plan and carry out a strategy for cooperating with people from different backgrounds; and
- adapt communication styles to take account of cultural values and differences.

collaborative and team building skills:

- participate in the establishment and operation of self-directed work teams;
- define roles and share responsibilities among team members;
- set objectives and time frames for work to be completed;
- establish processes for group decision-making; and
- review progress and make adjustments as required.

5. Values and Attitudes

- honesty and integrity, such as understanding the importance of perseverance and transparency;
- dependability and responsibility, such as being trustworthy and behaving responsibly;
- enthusiasm and motivation to participate actively in life;
- willingness to learn, such as being self-motivated in learning;
- self-confidence and self-esteem, such as being confident in one's own abilities and potential for personal growth and developing attachment to the culture of a chosen group; and
- respect for others and for law and authority, such as recognising the right of everybody to feel valued and be safe, and achieving a balance between rights and obligations.

Performance Example:

honesty and integrity, such as understanding the importance of perseverance and transparency:

- take responsibility for the consequences of one's own actions and mistakes; and
- apply ethical principles such as transparency, and avoid conflicts of interest.

dependability and responsibility, such as being trustworthy and behaving responsibly:

- behave positively and professionally at work;
- be responsible and accountable in fulfilling personal, community, and workplace roles;
- develop work habits, attitudes, and behaviours that promote trust in oneself and others; and
- understand that individual actions can affect the larger community.

enthusiasm and motivation to participate actively in life:

- show whole-hearted devotion to one's study or pursuit;
- develop the drive for success and understand how to create, set and review personal goals;
- show personal commitment to exploring and refining ideas and values;
- show interest in mastering a specific topic or area of studies;
- work proactively to manage, evaluate and improve one's own learning and performance; and
- inspire others to lift their performance.

Performance Example:

willingness to learn, such as being self-motivated in learning:

- be a reflective and self-motivated lifelong learner to meet the challenges of the changing environment;
- adapt flexibly to varied roles and responsibilities;
- develop interests and skills to enrich lifelong development; and
- manage and direct one's own learning.

self-confidence and self-esteem, such as being confident in one's own abilities and potential for personal growth and developing attachment to the culture of a chosen group:

- analyse one's own aptitudes, abilities, interests and priorities, and be realistic about career choices;
- develop self-assuredness in one's personal judgment, ability and power;
- develop work habits, attitudes, and behaviours that inspire the confidence of others; and
- develop confidence in oneself and make personal and career decisions by analysing choices, consequences and the effects on others.

respect for others and for law and authority, such as recognising the right of everybody to feel valued and be safe, and achieving a balance between rights and obligations:

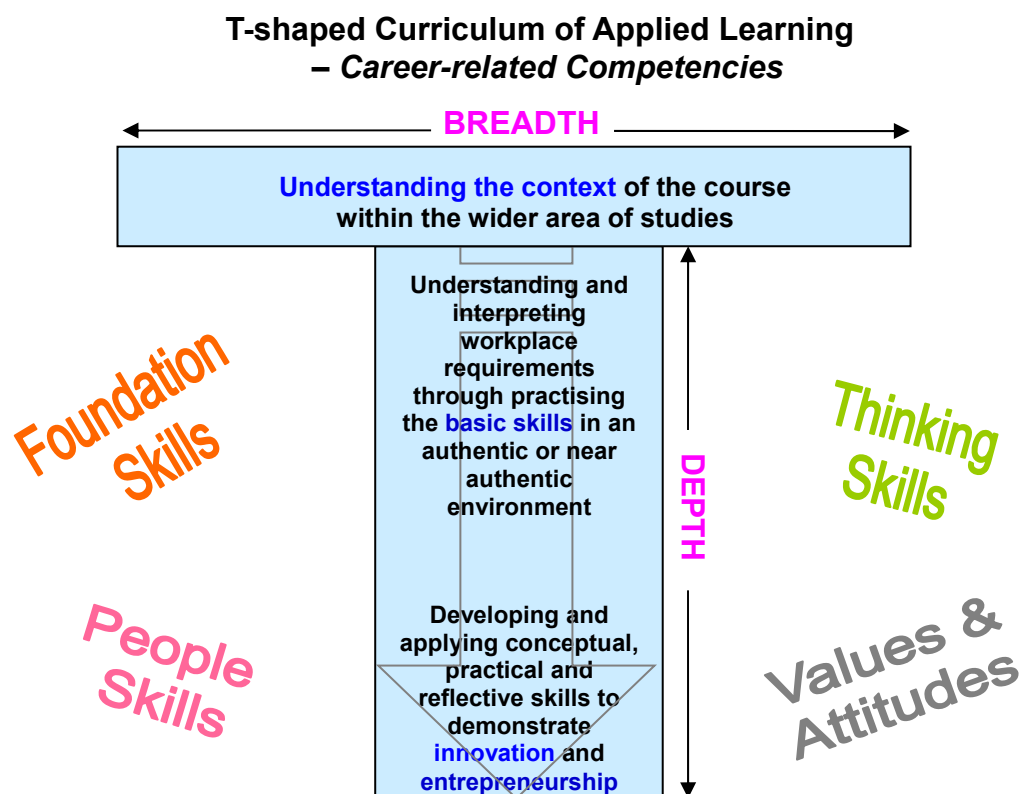
- understand the equality of people and of countries;
- respect diversity in the workplace;
- be aware of personal beliefs and attitudes that influence decision-making; and
- understand relevant legal and ethical issues.

Second Layer - Curriculum Framework for Areas of Studies

The curriculum framework for each area of studies in Applied Learning is characterised by the curriculum pillar “Career-related Competencies”, which was depicted earlier as:

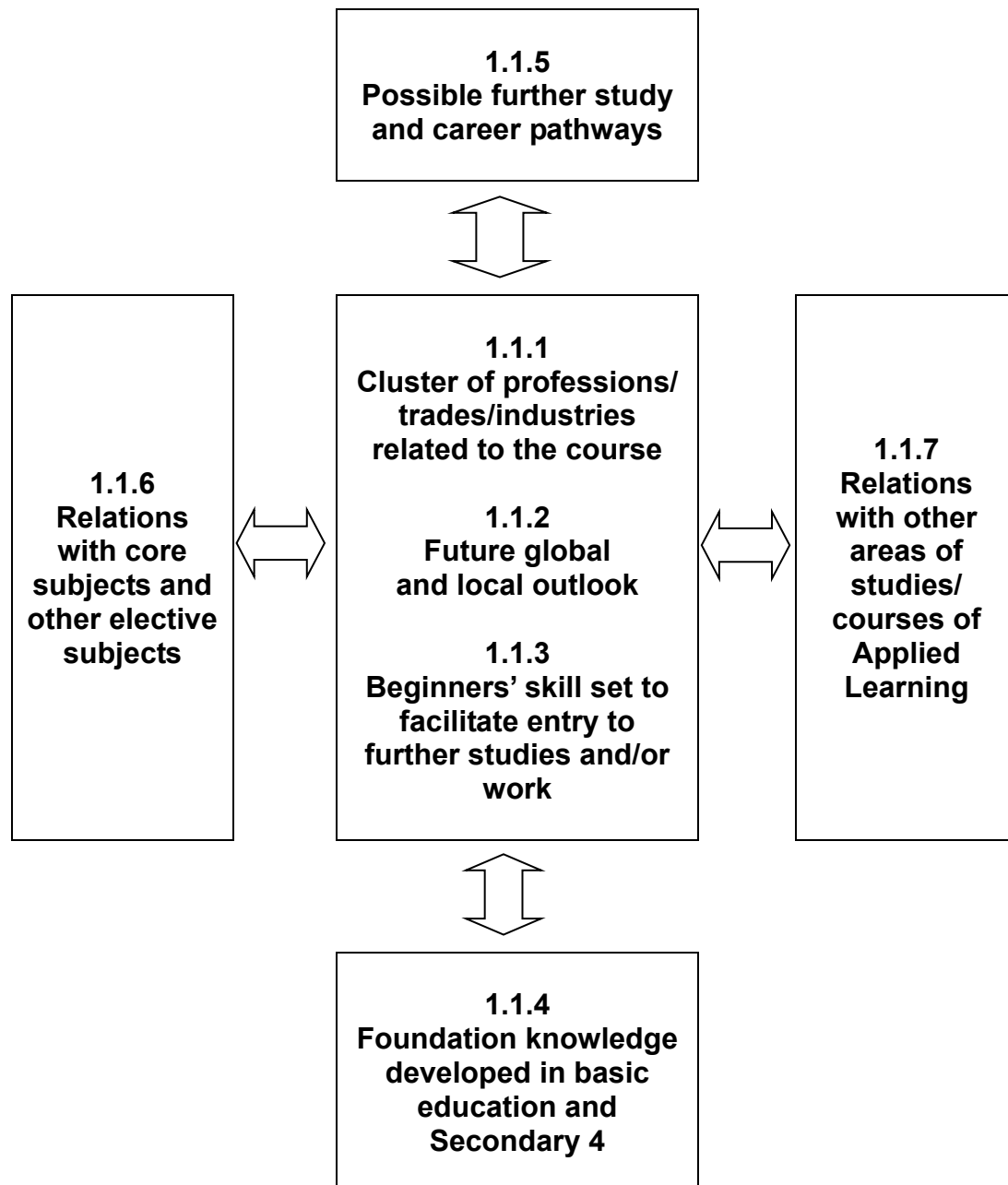
- 1.1 understanding the context of the course within the wider area of studies;
- 1.2 understanding and interpreting workplace requirements through practising the basic skills in an authentic or near authentic environment; and
- 1.3 developing and applying conceptual, practical and reflective skills to demonstrate innovation and entrepreneurship.

The above three proxies within *Career-related Competencies* embody the aspirations of Applied Learning courses to provide: a sound balance between breadth and depth and between conceptualisation and practice, an opportunity for students to look into different career pathways, and a means to meet their diverse interests, aspirations and aptitudes. The notion can be depicted by a T-shaped diagram as follows:

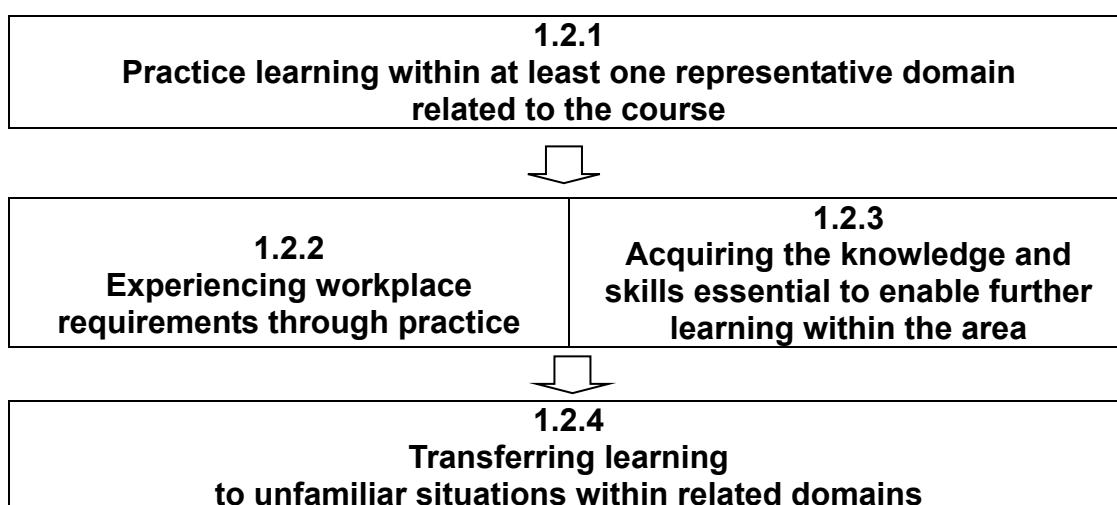


The *curriculum components* of each of the three proxies within “Career-related Competencies” can be depicted as follows:

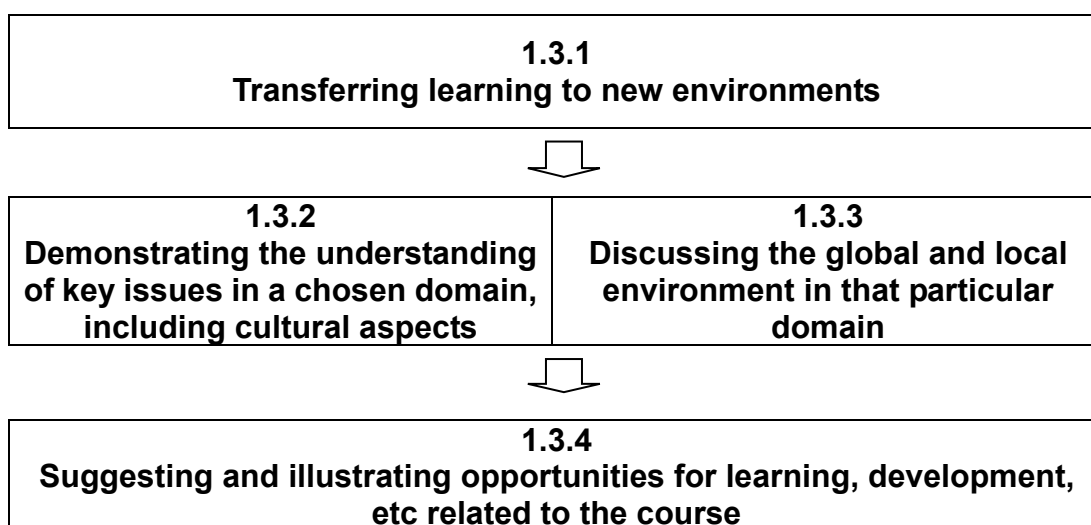
1.1 Understanding the context of the course within the wider area of studies



1.2 Understanding and interpreting workplace requirements through practising the basic skills in an authentic or near authentic environment



1.3 Developing and applying conceptual, practical and reflective skills to demonstrate innovation and entrepreneurship



It is anticipated that the design of a particular Applied Learning course will include explicit learning activities related to the three proxies described above, building upon students' prior learning in Key Learning Areas. The transferable skills, i.e. foundation skills, thinking skills, people skills, and values and attitudes will be developed and nurtured through various activities, and reflected in the expected learning outcomes of the activities. The following diagram depicts this concept:

Applied Learning Curriculum Framework for Areas of Studies

Foundation Skills

Thinking Skills

People Skills

Values and Attitudes

Career-related Competencies



3rd Proxy

+ Creativity + Innovation + Entrepreneurship



2nd Proxy

+ Learning-by-practising Opportunities in Authentic Environment

Creative Studies

Media and Communication

Business, Management and Law

Services

Applied Science

Engineering and Production

1st Proxy

+ Eye-opening Experiences on the Context + Beginners' Skill Set

Key Learning Areas

Third Layer – Curriculum Framework for Applied Learning Course

The design of an Applied Learning course is a two-level process: a macro process and a micro process, both of which are connected by the learning outcomes of the course.

The Macro Process

The macro process is where the design process starts. The course design team has to research and make informed decisions on the course, following the underpinning concepts and core values of the Applied Learning curriculum framework as well as global and local environmental factors. The team has to brainstorm the expected learning outcomes, taking into consideration the five curriculum pillars of Applied Learning.

The Micro Process

With the first draft of expected learning outcomes, the team can start picking topics as learning elements of the course. Using the content of the chosen context, the learning and assessment activities can be planned to achieve the draft expected learning outcomes. Reality checks can then be carried out to determine whether the draft expected learning outcomes are reasonable and achievable. The expected learning outcomes are then reviewed and revised accordingly.

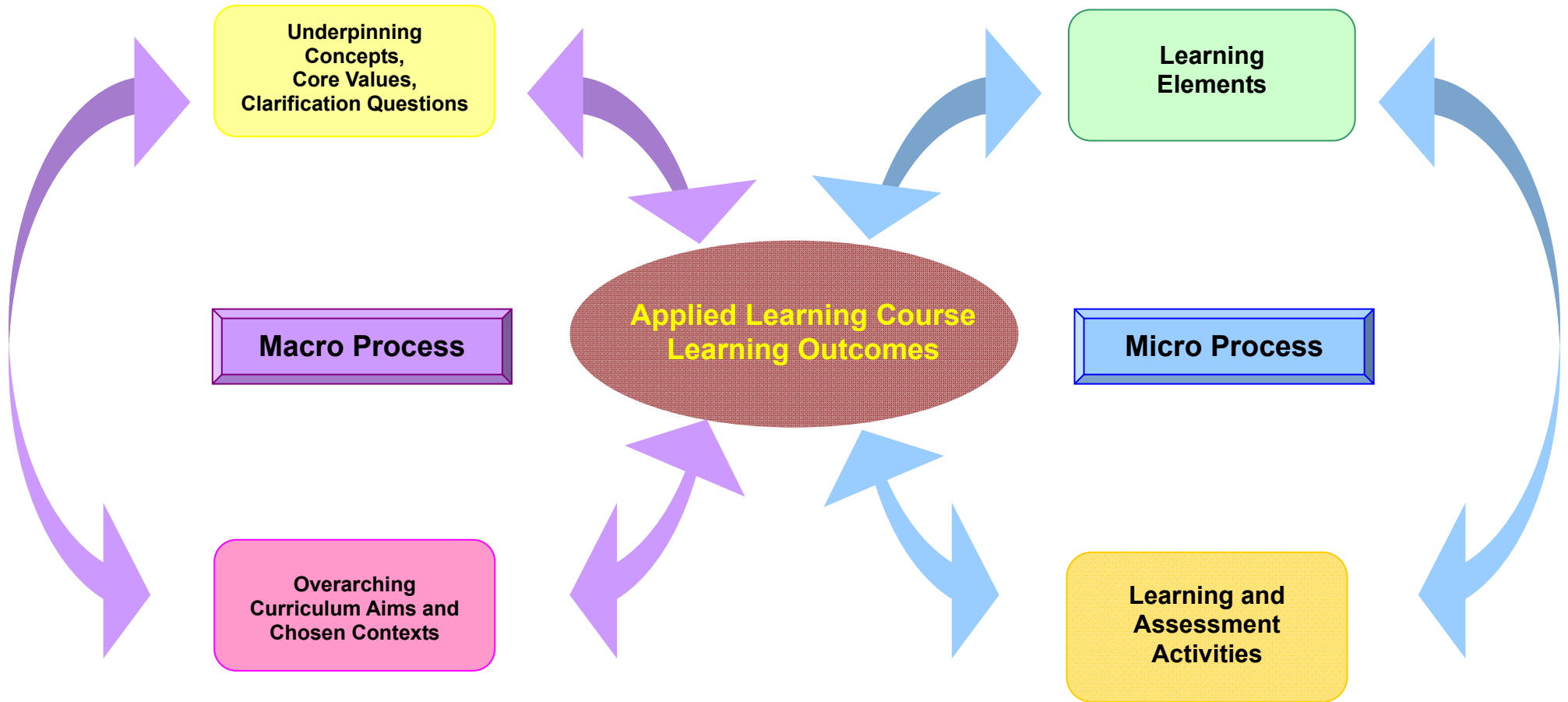
Iteration

Based on reality checks, the expected learning outcomes are revised and checked against the underpinning concepts and core values. Meanwhile the curriculum aims and the context of the course can be refined to better represent the chosen learning elements. To ensure coherence, the expected learning outcomes are revisited for further review and refinement as appropriate.

Repeated reviews of macro and micro processes continue until there is consistency among the five components of the design process: 1) underpinning concepts, core values, clarification questions; 2) overarching curriculum aims and chosen contexts; 3) learning outcomes; 4) learning elements; and 5) learning and assessment activities. The product can then be presented for comment by different stakeholders (the reality check) and the process of reviewing and revising will continue, incorporating feedback and comments received. This process can be extended to the curriculum delivery stage as part of the review process for improvement.

At the end of the process, there could be a number of courses within an area of studies which are clustered around different foci. Under each course cluster, there could be different subject choices designed by different course providers.

The two-level process of designing an Applied Learning course is depicted in the following diagram:



2.3 Overview of the Curriculum Framework for the Six Areas of Studies in Applied Learning

Examples of components that characterise each area of studies are set out in the following table:

Curriculum Components	Area Specific Examples					
	Creative Studies	Media and Communication	Business, Management and Law	Services	Applied Science	Engineering and Production
Aims						
<ul style="list-style-type: none"> Underpinning concepts 	Creating and adding value through <ul style="list-style-type: none"> engaging in creative acts involving visuals (as in photography or illustration), sound (as in music), motion (as in dance) or written or spoken language (as in fiction and drama), or all of these 	Creating and adding value through <ul style="list-style-type: none"> applying different media to the communication of ideas and messages to target audiences – the media can include print media, such as posters, books, and newspapers, and non-print media, such as the Internet, films, television, and radio 	Creating and adding value through <ul style="list-style-type: none"> commercial transactions involving products and services promoting strategic and operational practices to ensure efficient and effective outcomes regulating personal, social, commercial and international business relationships and agreements 	Creating and adding value through <ul style="list-style-type: none"> designing, planning and production of outputs in the form of services – the services provided could be broadly categorised by the types of consumers, such as services provided to individuals, to households and communities, and to businesses and institutions 	Creating and adding value through <ul style="list-style-type: none"> applying knowledge and skills from one or more natural scientific fields to solve practical problems 	Creating and adding value through <ul style="list-style-type: none"> applying knowledge and skills in science and technology to the development, production, and establishment of constructs and processes
<ul style="list-style-type: none"> Core values 	<ul style="list-style-type: none"> learning to be ethical and responsible in creating and realising ideas, considering the cultural, ethnic, social and national dimensions of values, e.g. issues on plagiarism, appropriation, data privacy, intellectual and cultural property and copyright developing ability to give creative life and impact to ideas and perspectives developing an historical understanding and appreciation of contemporary culture and its creation developing aspirations in the creative industries for future career and adult life 	<ul style="list-style-type: none"> learning to be ethical and responsible in developing and transmitting messages to audiences through various media, considering the cultural, ethnic, social and national dimensions of values, e.g. understanding the importance of balancing the public's right to know and the rights of individuals and organisations to privacy, and respecting copyright and intellectual property understanding social responsibilities related to communication developing aspirations in the field of media and communication for future career and adult life 	<ul style="list-style-type: none"> learning to be ethical and responsible in business transactions and operations, considering the cultural, ethnic, social and national dimensions of values, e.g. understanding corporate social responsibility, corporate governance, copyright, data privacy and the role of honesty and integrity in creating trust in business settings understanding and respecting the norms arising from civilisation and culture (both documented or non-documented) developing awareness of risks in decision-making and management, perceiving defeats as an invitation to innovate conveying ideas and messages effectively to the right target groups developing aspirations in the field of business, management and law for future career and adult life 	<ul style="list-style-type: none"> learning to be ethical and responsible in designing and delivering services, considering the cultural, ethnic, social and national dimensions of values, e.g. observing confidentiality of customer information, striking a balance between social responsibility, customer rights and the company's benefits understanding the importance of trust and interpersonal relationships and cultural, economic, environmental, and social factors which condition these relationships understanding the nature and characteristics of the services sector and recognising the importance of this sector to economic development both globally and locally developing aspirations in the field of services for future career and adult life 	<ul style="list-style-type: none"> learning to be ethical and responsible in using scientific knowledge and skills, considering the cultural, ethnic, social and national dimensions of values, e.g. being aware of the improper use of drugs in sports, maintaining confidentiality of information and patients' rights, and recognising the importance of ethical sources of information understanding how science can be used to serve the well-being of the world applying scientific knowledge and the skills of scientific investigation to explain phenomena, and constructing solutions to problems developing aspirations in the field of applied science for future career and adult life 	<ul style="list-style-type: none"> learning to be ethical and responsible in the development, production and establishment of constructs and processes, considering the cultural, ethnic, social and national dimensions of values e.g. recognising and respecting professional ethics and responsibilities of a professional engineer to the profession, to colleagues, to employers or clients, to the public, and to the world understanding the multi-disciplinary nature of the transfer of scientific knowledge understanding the engineering process which may include research, design, installation, testing, commissioning, maintenance, and problem-solving of objects, systems and processes developing aspirations in the field of engineering and production for future career and adult life

Curriculum Components	Area Specific Examples					
	Creative Studies	Media and Communication	Business, Management and Law	Services	Applied Science	Engineering and Production
1. Career-related Competencies						
1.1 Understanding the context of the course within the wider area of studies <ul style="list-style-type: none"> providing eye-opening opportunities for students to experience the complexity of a particular context through the provision of information and experiences on: <ul style="list-style-type: none"> the cluster of professions/trades/industries the future global and local outlook of the related context equipping students with the beginners' skill set for the chosen context, such as mastery of labels, terminology, facts and skills through observing and practising 						
1.1.1 Cluster of professions/trades/ industries related to the course	<ul style="list-style-type: none"> design studies creative writing performing arts media arts 	<ul style="list-style-type: none"> films, television and broadcasting studies news media radio and television production public relations and advertising 	<ul style="list-style-type: none"> business administration accountancy financial management/services business communications marketing entrepreneurial studies legal studies 	<ul style="list-style-type: none"> business services hospitality services retail and merchandising services personal health services public services 	<ul style="list-style-type: none"> medical science health care sports environmental science astronomy and space science psychology 	<ul style="list-style-type: none"> building services engineering civil engineering electrical engineering environmental engineering information engineering manufacturing and industrial engineering mechanical engineering
1.1.2 Future global and local outlook	<ul style="list-style-type: none"> Hong Kong is distinguished by its fusion of Chinese and Western cultures, values and technical knowledge and skills, which enriches the context for adding value to services or products and performances the influence of political and social developments on the content and style of creative products and services; the impact of the technological advancement in media development for creative communication both globally and locally 	<ul style="list-style-type: none"> the economic and educational development of society coupled with rapid development of technologies mutually reinforce the ever-growing demands for media production globally and locally 	<ul style="list-style-type: none"> Hong Kong's economy has moved up the value-added chain towards a more knowledge-based society political and economic alliances increase the interdependency of different business sectors 	<ul style="list-style-type: none"> the economic development in the last few decades both globally and locally has pushed both the education levels and living standards of people, which have resulted in escalating demands from service industries in Hong Kong, the services sector is the main contributor to GDP, while worldwide its contribution is also growing the diversification and the specialisation of the sector and the expanding market driving the sector to new heights both globally and locally 	<ul style="list-style-type: none"> Applied Science underpins a wide range of professions and occupations, e.g. the medical professions scientific development leads to significant changes in our daily life and lifestyle, e.g. mobile technologies, fibre technologies, medical technologies 	<ul style="list-style-type: none"> the exponential explosions in knowledge and technology are fundamental to global growth Hong Kong's role in providing major scientific and logistical support for the Pearl River Delta Region
1.1.3 Beginners' skill set to facilitate entry to further studies and/or work	<ul style="list-style-type: none"> researching, analysing and discussing creative works in terms of originality and the practitioner's artistic and aesthetic choices developing an understanding of legal and ethical issues related to creative activities (e.g. plagiarism, appropriation, data privacy, intellectual and cultural property and copyright) selecting and applying different media of communication to present ideas and views effectively for intended audience exploring the aptitudes and abilities required in selected career clusters in the creative industries, and developing a personal roadmap to articulate to different levels of qualifications 	<ul style="list-style-type: none"> understanding media ethics involved in the disclosure and free flow of information understanding specialised terms and language used in the media industry analytically and critically appraising historical events and current issues creating, producing and disseminating ideas to the public through different media platforms exploring the aptitudes and abilities required in selected career clusters in media and communication, and developing a personal roadmap to articulate to different levels of qualifications 	<ul style="list-style-type: none"> identifying value-adding opportunities understanding business ethics evaluating the interrelationship of political, socio-economic, technological and cultural factors analysing a business's strengths, weaknesses, opportunities and threats being aware of legal issues related to different professions exploring the aptitudes and abilities required in selected career clusters in business, management and law, and developing a personal roadmap to articulate to different levels of qualifications 	<ul style="list-style-type: none"> understanding ethical dilemmas and responsibilities in the provision of services acquiring the terminology and professional language unique to different service operations developing the personal attributes essential to the services industry acquiring a range of technical knowledge and skills in services related to the trade and industry in context exploring the aptitudes and abilities required in selected career clusters in services, and developing a personal roadmap to articulate to different levels of qualifications 	<ul style="list-style-type: none"> understanding the process of scientific inquiry – the development, testing and communication of scientific ideas – and the nature of science becoming aware of the social, legal and ethical responsibilities related to the application of science applying scientific knowledge and skills in daily life contexts and work-related contexts, also considering health and safety issues exploring the aptitudes and abilities required in selected career clusters in applied science, and developing a personal roadmap to articulate to different levels of qualifications 	<ul style="list-style-type: none"> appreciating engineering achievements and the process of development of engineering projects understanding the importance of honesty and integrity in carrying out engineering projects and respecting the rules of professional conduct applying knowledge of mathematics, science, technology, and engineering designing and conducting experiments and analysing and interpreting data designing or adapting a system to meet external constraints using relevant skills and tools to identify, formulate, and solve engineering problems exploring the aptitudes and abilities required in selected career clusters in engineering and production, and developing a personal roadmap to articulate to different levels of qualifications

Curriculum Components	Area Specific Examples					
	Creative Studies	Media and Communication	Business, Management and Law	Services	Applied Science	Engineering and Production
1.2 Understanding and interpreting workplace requirements through practising the basic skills in an authentic or near authentic environment <ul style="list-style-type: none"> providing learning-by-practising opportunities for students to explore, experience and try out tasks in an authentic or near authentic environment so as to understand the requirements and acquire fundamental knowledge and skills essential to enable further learning within the area 						
<p>1.2.1 Practice learning within at least one representative domain related to the course</p> <p>1.2.2 Experiencing workplace requirements through practice</p> <p>1.2.3 Acquiring the knowledge and skills essential to enable further learning within the area</p> <p>1.2.4 Transferring learning to unfamiliar situations within related domains</p>	<p>Students are provided with the learning-by-practising opportunities to choose a domain within the context of the course (which can be in the form of elective studies, case studies, project, etc) for an extended study, which should be largely self-initiated. Through the study and practice, students are able to</p> <ul style="list-style-type: none"> experience the roles and responsibilities within related professions, e.g. image designer, hair stylist, fashion designer develop the ability to reflect and critique their own products or performances, and those of others, as well as their originality, adaptability and intellectual quality, etc develop generic skills, and values and attitudes, e.g. <i>communication skills</i> – through non-verbal media, such as dance, drama and music; <i>collaborative and team building skills</i> – practising stage management; <i>self-confidence and self-esteem</i> – sense of competence through successfully completing works or performances transfer knowledge and skills to different roles in the creative domain, e.g. transferring a work of fiction to a television script 	<p>Students are provided with the learning-by-practising opportunities to choose a domain within the context of the course (which can be in the form of elective studies, case studies, project, etc) for an extended study, which should be largely self-initiated. Through the study and practice, students are able to</p> <ul style="list-style-type: none"> experience the roles and responsibilities within related professions, e.g. professional scripting requirements for creating a storyboard communicate effectively and use basic media tools in diverse media settings develop generic skills, and values and attitudes, e.g. <i>communication skills</i> – communicating in a way appropriate to the purpose and audience through spoken, written, or graphical means of expression; <i>problem-solving skills</i> – anticipating potential problems in a media production and provide measures or contingency plan to alleviate their impact; <i>interpersonal skills</i> – accepting new ideas and making constructive compromises with different parties transfer knowledge and skills from one medium (e.g. radio) to a different medium (e.g. the Internet) 	<p>Students are provided with the learning-by-practising opportunities to choose a domain within the context of the course (which can be in the form of elective studies, case studies, project, etc) for an extended study, which should be largely self-initiated. Through the study and practice, students are able to</p> <ul style="list-style-type: none"> experience the roles and responsibilities within related professions, e.g. the role and requirements of an auditor use research skills (including information and communication technology tools) for making personal and business decisions develop generic skills, and values and attitudes, e.g. <i>numeracy skills</i> – calculating time value of money, interest rates, risk and return; <i>analytical skills</i> – applying skills in investment and insurance planning to suit personal or corporate needs; <i>respect for law and authority</i> – understanding various legal and ethical issues related to business settings such as corporate governance, data privacy transfer knowledge and skills to new situations, e.g. devising financial plans for individuals with varying needs 	<p>Students are provided with the learning-by-practising opportunities to choose a domain within the context of the course (which can be in the form of elective studies, case studies, project, etc) for an extended study, which should be largely self-initiated. Through the study and practice, students are able to</p> <ul style="list-style-type: none"> experience the roles and responsibilities within related professions, e.g. distinguish the nature and purpose of commercial services from non-commercial, public and community services be able to realise the importance of satisfying customers' demand for service value and quality in different circumstances develop generic skills, and values and attitudes, e.g. <i>communication skills</i> – writing personal health reports or sales reports in an effective way; <i>analytical skills</i> – collecting background information and analysing data on the type and range of services performed in other cities or countries; <i>interpersonal skills</i> – creating a positive, relaxed and pleasant atmosphere when providing services transfer and apply knowledge of safety and health hazards to different types of services 	<p>Students are provided with the learning-by-practising opportunities to choose a domain within the context of the course (which can be in the form of elective studies, case studies, project, etc) for an extended study, which should be largely self-initiated. Through the study and practice, students are able to</p> <ul style="list-style-type: none"> experience the roles and responsibilities within related professions, e.g. sports nutritionist vs clinical nutritionist develop the awareness and scientific understanding of safety precautions and procedures in various work contexts acquire knowledge and skills in scientific inquiry develop generic skills, and values and attitudes, e.g. <i>numeracy skills</i> – calculating the cost and nutritional value of a meal in the study of nutrition; <i>understanding interdependency and relationships</i> – students studying Chinese medicine should recognise how the natural environment interacts with the human body; <i>honesty and integrity</i> – being aware of improper use of drugs in sports transfer researching, critical thinking and reflection skills acquired in scientific investigations 	<p>Students are provided with the learning-by-practising opportunities to choose a domain within the context of the course (which can be in the form of elective studies, case studies, project, etc) for an extended study, which should be largely self-initiated. Through the study and practice, students are able to</p> <ul style="list-style-type: none"> experience the roles and responsibilities within related professions, e.g. job requirements for environmental engineer use the principles and theories of science, engineering, and mathematics to solve technical problems discuss the transfer of scientific discoveries and research findings to commercially viable products develop generic skills, and values and attitudes, e.g. <i>information technology skills</i> – applying and adapting software packages in gathering and analysing information; <i>creative thinking skills</i> – developing innovative solutions to problems in an engineering environment; <i>self-reflection and self-management skills</i> – taking into account time and resource constraints in fulfilling work and production requirements transfer skills to new situations of application, e.g. from aircraft engineering to automobile engineering

Curriculum Components	Area Specific Examples					
	Creative Studies	Media and Communication	Business, Management and Law	Services	Applied Science	Engineering and Production
1.3 Developing and applying conceptual, practical and reflective skills to demonstrate innovation and entrepreneurship <ul style="list-style-type: none"> providing an encouraging learning environment for students to conceptualise their learning in Applied Learning and in other core and elective subjects, so that they develop generic understandings which they can apply in solving a problem(s) they face in their daily experiences (e.g. global warming, food safety, selection of programmes for further studies, national identity) <p>Through elective studies, case studies, project, etc, some students, with the support of tutors, may be able to demonstrate their learning beyond the level of information, knowledge and skill development to the level of conceptualising and meta-understanding, by drawing upon and integrating their learning across the curriculum and applying it to solve daily problems</p>						
1.3.1 Transferring learning to new environments 1.3.2 Demonstrating the understanding of key issues in a chosen domain, including cultural aspects 1.3.3 Discussing the global and local environment in that particular domain 1.3.4 Suggesting and illustrating opportunities for learning, development, etc related to the course	applying the knowledge and skills involved in the design cycle when organising extra-curricular activities in school: <ul style="list-style-type: none"> generating ideas and identifying their intended audience (e.g. working out what kind of activities their intended audience might wish to participate in) researching into a theme (e.g. developing ideas within a meaningful theme for an activity with particular objectives) gathering materials required for the activity (e.g. estimating the resources required for the activity and choosing the medium of communication for presenting the activity) working out a prototype taking into consideration likely constraints (e.g. identifying the resource constraints and exploring implementation strategies) presenting the plan and testing the initial ideas of the activity in teams (e.g. choosing appropriate media through which to present the ideas with team members and respecting everyone's views in the process) evaluating the activity and making changes as appropriate 	applying the knowledge and skills involved in effective communication when organising a school-based activity such as the celebration of a school anniversary or a school cleaning campaign: <ul style="list-style-type: none"> identifying target participants (e.g. junior or senior form students) considering factors such as age group, family background, historical background of the school and the cultural characteristics of the participants identifying the theme for the activity and match it with other factors highlighting the main issues involved in the theme and disseminating them through different channels (e.g. leaflets, posters, campus TV, school intranet) highlighting key messages and creating a conducive atmosphere for the activity using multiple media platforms in an effective and responsible manner 	applying the knowledge and skills involved in building an investment portfolio to the creation of students' own portfolio of studies: <ul style="list-style-type: none"> considering their goals (e.g. what careers they aspire to) analysing their personal assets (e.g. aptitudes, strengths, weaknesses, and values) researching the skills and education that the careers require deciding how much they can afford to invest in such requirements (e.g. in terms of time and effort) determining how much risk they are willing to take (e.g. considering constraints in capability, resources, or changes in environment) soliciting guidance and advice; putting together the portfolio of studies (e.g. subject combination, studies pathways, participation in school or community activities, career exploration activities) testing the initial plans; evaluating the portfolio and making changes as appropriate 	applying the knowledge and skills involved in effective communication in service industries to the management of one's social life and networks: <ul style="list-style-type: none"> employing relationship skills in service industries to making new acquaintances, and to communicating trust and respect to other people through words and actions developing knowledge about current issues and maintaining an interesting dialogue with others applying good communication techniques to maintain harmonious social relationship with others, e.g. learn to listen without jumping to conclusions too quickly, learn to appreciate and respect opposing views 	applying the knowledge and skills involved in scientific enquiry to organising extra-curricular activities in school: <ul style="list-style-type: none"> identifying the interests of their schoolmates (e.g. through observation and/or collection of data through surveys) identifying the types of activities to be organised designing the activity in accordance with the needs of the participants identifying the constraints in time and resources, exploring possible strategies for the implementation of the activity and managing risks, etc and learning to work with others collaboratively understanding the complementary roles played by team members, and respecting the opinions and values of others 	applying the knowledge and skills involved in aircraft entertainment systems to the design of the systems in an "intelligent" building: <ul style="list-style-type: none"> using knowledge of audio and video cable routing on an aircraft to minimise interference and enhance sound and video quality using knowledge in cabin management systems as a means to tie together most of the systems that affect the residents in an intelligent building

The curriculum frameworks for the six areas of studies are given in Annexes A-F respectively.

Chapter 3 Curriculum Planning

This chapter provides guidelines to help schools and teachers develop a flexible and balanced curriculum that suits the needs, interests and abilities of students, and the context of their school.

3.1 Guiding Principles

Students should be supported to understand the complementary and supplementary nature of Applied Learning, so as to make informed choices in deciding the elective subjects for their senior secondary studies. They need to understand that:

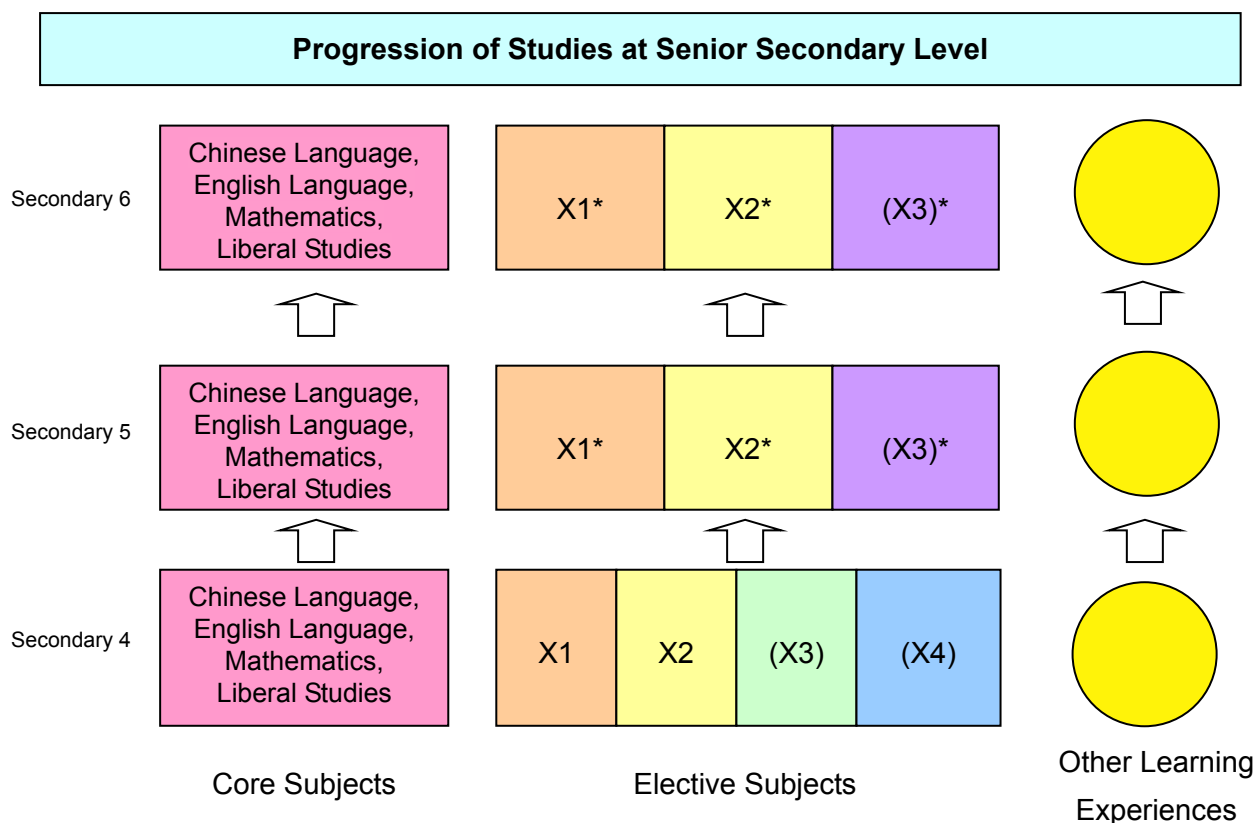
- each Applied Learning course is based on a cluster of trades or industries which reflect the social, economic and technological needs of Hong Kong and global trends, and are close to students' daily life;
- the T-shaped curriculum of Applied Learning enables students to acquire an overview of the opportunities associated with particular trades and industries so that they can explore possibilities for further studies and careers. At the same time it enables them to pursue in-depth studies in a selected area and to develop transferable skills such as foundation skills, thinking skills, people skills, and values and attitudes; and
- the authentic contexts within the Applied Learning courses complement students' studies in other subjects, thus contributing to whole person development.

3.2 Connection with Other Senior Secondary Subjects and Learning Experiences

Knowledge in Applied Learning is acquired mainly through hands-on, practical experience. As in other senior secondary subjects the aim is to enable students to acquire knowledge, skills and attitudes which are transferable.

Applied Learning courses will be introduced in Secondary 5. In order to provide students with the prior information necessary for choosing a particular combination of elective subjects in their Secondary 5 studies, taster programmes can be introduced in Secondary 4. These will be supplemented with guidance and advice offered through careers talks, structured visits and workplace-related experiences.

The progression of studies at senior secondary level is set out diagrammatically as follows:



() optional

* including Applied Learning courses

X = Elective Subject

Connection with Core Subjects

Applied Learning provides an authentic or near-authentic context for students to acquire the skills of the workplace. It also aims to complement their studies in core subjects in the senior secondary curriculum.

Connection with Languages – Applied Learning provides a language-rich environment for students. Students engage in the learning and use of language in a range of workplace tasks (e.g. handling telephone enquiries and the complaints of customers in courses related to hospitality services, or writing reports in business courses), and they use language to communicate with others about work-related matters. In courses such as media and communication, students use languages for a wide range of purposes, involving different contexts and audiences, and learn to understand what functions language fulfils in work-related contexts. They can then apply this understanding to the use of language in their daily life.

Connection with Mathematics – The different areas of studies of Applied Learning also provide real-life situations for students to apply the concepts and knowledge they acquire in Mathematics. For example, in courses related to accounting and finance, students need to interpret algebraic relations from numerical, symbolic and graphical

data. In courses related to design, engineering and production, students make use of their knowledge of measures, shape and space to formulate and solve two-dimensional and three-dimensional problems. In conducting research in courses such as retail and merchandising, students need to handle data and apply knowledge in statistics to identify central tendencies and dispersion.

Connection with Liberal Studies – The concepts, knowledge and skills students acquire in different areas of studies of Applied Learning also facilitate students' learning in Liberal Studies. For example, in courses related to health care, students need to understand the importance of personal hygiene in public health. In marketing, students learn how to set up and execute a marketing plan for a specific international market. This complements their studies in globalisation. In all Applied Learning courses students learn about planning, leadership and time management, which are indispensable for the independent enquiry study.

Further suggestions on how Applied Learning can contribute to the study of the core and elective subjects are set out in Appendix 1.

Useful Combinations of Applied Learning and Elective Subjects

The study of Applied Learning complements other senior secondary subjects by offering studies with stronger elements of practical learning linked to broad professional and vocational fields. Choosing a sound combination of Applied Learning and elective subjects enhances student learning and lateral coherence within the senior secondary curriculum.

While the core and elective subjects offer learning and thinking tools, Applied Learning contributes to them by:

a. enhancing and enriching subject knowledge:

e.g. students taking Business, Accounting and Financial Studies may take related Applied Learning courses such as accountancy, financial management and marketing to enhance the breadth and depth of studies in these fields;

b. generating cross-fertilisation:

e.g. students taking Physics may benefit through studying civil and mechanical engineering, as these Applied Learning courses share common concepts and processes such as force and motion, electricity and magnetism, and conservation of energy. This helps students consolidate learning across both subjects;

c. expanding students' horizons:

e.g. students taking Science or Arts subjects may take an Applied Learning course such as performing arts, financial management, food and catering or personal services to broaden their horizons and enhance their all-round development; and

d. consolidating and synergising students' studies:

e.g. Applied Learning courses provide a multi-disciplinary context and an encouraging learning environment for students to reflect on their learning across the curriculum, so that they develop generic knowledge and skills which they can apply in solving problems such as global warming, food safety, selection of programmes for further studies, national identity. Some students, with the support of their tutors, may even be able to take their learning beyond the level of information, knowledge and skill development to the level of conceptualisation and meta-understanding.

The elective subjects and Applied Learning courses are also complementary to each other, e.g. Visual Arts is related to design studies in Creative Studies; Integrated Science is related to health care in Applied Science. A list of examples of the combinations of Applied Learning and other elective subjects is given in [Appendix 2](#).

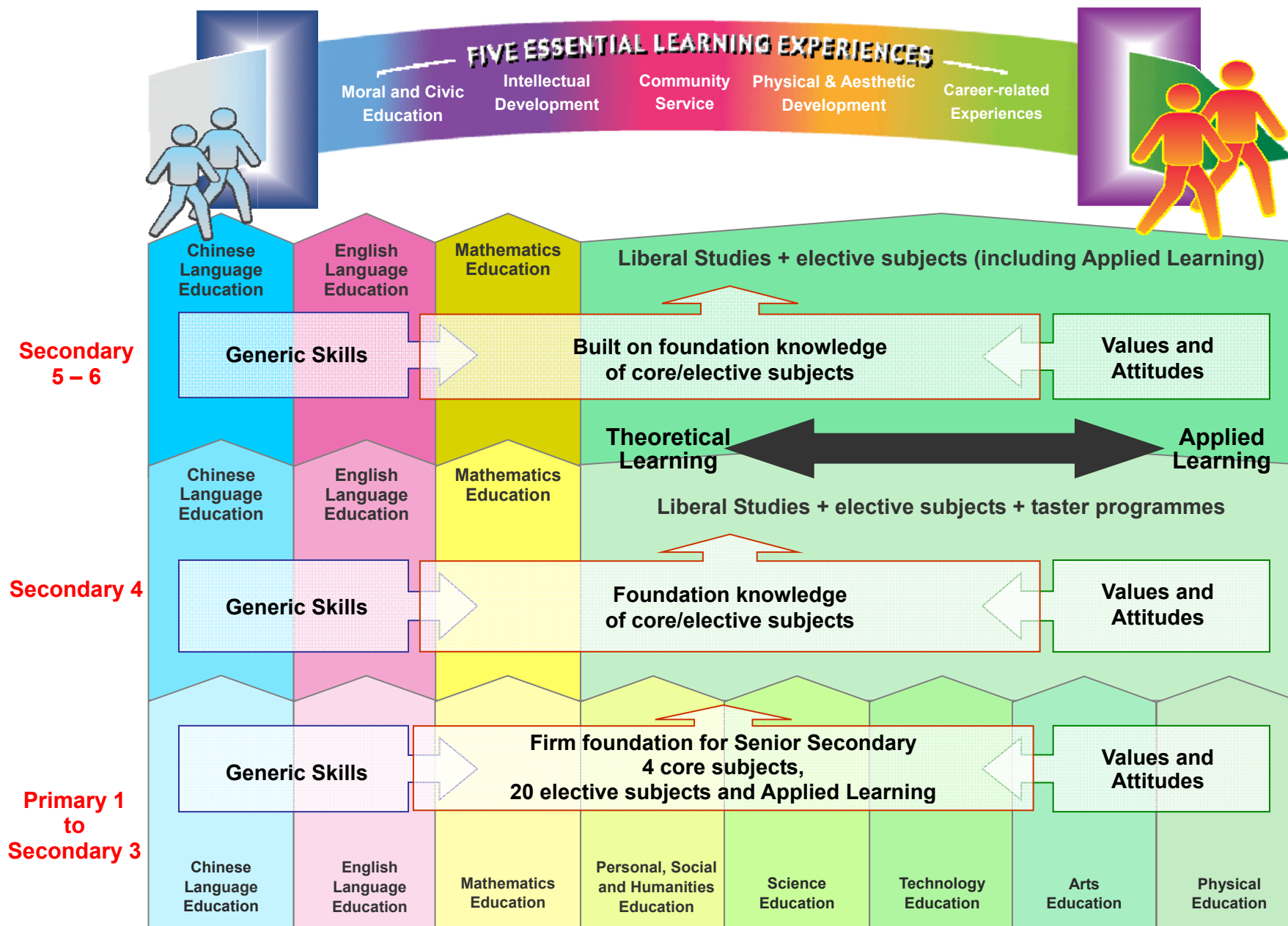
3.3 Connection with Basic Education and Career Pathways

Students acquire the essential skill of learning to learn from the eight Key Learning Areas of Basic Education, and at the same time develop curiosity and interests in a wide range of subjects. They may, for example, become interested in Chinese and Western approaches to medical care, or the application of scientific knowledge to sports and fitness. Other students may want to further explore their talents in design, or develop their skills in dance, etc. Applied Learning provides a means for students to meet this curiosity and realise their aspirations under the umbrella of formal education and the acquisition of recognised qualifications.

Provision for articulation pathways for further studies and/or career development is a critical design principle of Applied Learning and this has been substantially developed during piloting (Please refer to Chapter 2). Related information on the articulation pathways of individual courses can be found at the website of Applied Learning (www.edb.gov.hk/apl/).

The interface of Applied Learning with Basic Education Key Learning Areas and with senior secondary core/elective subjects is set out diagrammatically as follows:

Interface of Applied Learning with Basic Education Key Learning Areas and Senior Secondary Core/Elective Subjects



Chapter 4 Learning and Teaching

This chapter provides guidelines for the effective learning and teaching of Applied Learning. It is to be read in conjunction with Booklet 3 in the *Senior Secondary Curriculum Guide* (Curriculum Development Council, 2009), which provides the basis for the suggestions about learning and teaching set out below.

4.1 Knowledge and Learning

Underlying the mapping out of the knowledge to be acquired in an Applied Learning course is the basic question: *What are the differences between a student who has successfully completed an Applied Learning course and one who has not?*

The answer to this question can be multifaceted and is complex. Our findings can be broadly summarised in two dimensions:

- Students who have studied an Applied Learning course are able to demonstrate that they have acquired knowledge about the context of the course, which can be codified and described. Such knowledge generally includes facts, rules, procedures and skills. Students develop an overview of the area under study which is the portal to further studies in the area. This type of knowledge can generally be measured directly.

Example:

From a course related to image design, students emerge able to understand the clusters of professions related to the area, such as hair design, fashion design and merchandising. They also acquire the beginners' skill set to facilitate entry to further studies or a career in the field, e.g. they know about the profile and features of the image design industry and the role of an image designer; they acquire foundation knowledge and practical skills in the image design industry; they understand concepts and techniques used in fashion image or in the hair design industry; and they know how to prepare for entry into the image design industry.

Example:

From a course related to financial services, students emerge able to understand the clusters of professions related to the area, such as accountancy, banking. They also acquire the beginners' skill set to facilitate entry to further studies or a career in the field, e.g. they know about the role and importance of financial services in an economy; they understand basic concepts of finance and how to apply them to daily life situations; they know about the structure and regulations of the financial services industry, the roles and functions of different types of financial institutions, the features and the functions of different financial products; and they have enough basic financial knowledge to determine whether they might wish to work in the field of financial services in adult life.

- Students who have studied an Applied Learning course can apply knowledge acquired effectively in meaningful tasks. Students acquire this type of knowledge through the experience of actively participating in the learning activities of the course, internalising the requirements and gradually building up the necessary skills and the confidence to apply all this to tasks in an unfamiliar environment. Such knowledge may not necessarily be codifiable or made explicit by students, but is internalised and can be inferred from what they do.

Example:

From a course on image design, students emerge having explored skills in coordination and illustration in image design. They will also have explored first-hand the roles and responsibilities of an image designer and have understood the requirements and work ethics required in the design industry. Students will be able to use the knowledge and research skills acquired to explore career opportunities. They will also be able to transfer the knowledge and skills acquired to different forms of design work.

Example:

From a course on financial services, students emerge having explored products involving different levels of financial risk for customers with different profiles. They will also have explored first-hand the functions of the regulatory bodies, and the requirements applied to the non-banking financial sector such as insurance or securities, through regulators and self-regulatory bodies. Students will be able to discuss the role and responsibilities of a financial planner and understand the work ethics related to the industry. They will be able to use the knowledge and research skills acquired to explore career opportunities. They will also be able to transfer the knowledge and skills acquired to the exploration of other products for customers.

4.2 Guiding Principles

4.2.1 For effective learning and teaching, Applied Learning tutors/teachers should be equipped with the following five dimensions of competencies:

Dimensions	Required Professional Development/ Work Experience
A. Understanding of Students and Their Needs	Pedagogical knowledge and skills applied to teenage children and young adults
B. Command of Teaching and Facilitating Skills	
C. Command of Subject Knowledge and Skills	Training in a subject discipline (which may relate to one or more of the six areas of studies)
D. Positive Attitude	Not reflected by paper qualifications, but by the inclinations of teachers and the cultivation of positive attitude
E. Authentic Experience	Work/Trade experience

Individual tutors are not required to demonstrate all the above dimensions of competencies. A team of tutors with complementary skills and knowledge can fulfil the requirements.

4.2.2 Learning and teaching within Applied Learning courses should:

- develop students' generic and transferable skills, and address their career aspirations;
- embed knowledge elements within applied and practical contexts;
- sequence learning over the two-year duration of the course to accommodate the growth of students' capabilities, capacities and maturity;
- give students every opportunity possible to demonstrate their skills and knowledge, and enable them to be re-assessed should they have an earlier failure;
- provide opportunities to discover the capabilities and prior knowledge and skills of students before commencing key elements of the course;
- incorporate clear expectations for student attendance and behaviour which are conveyed to students;

- offer students helpful and relevant learning support and careers advice. Pastoral and careers support is the responsibility ultimately of the secondary school which enrolls the student, but Applied Learning course tutors should advise students on the career and further education pathways that are accessible to them;
- meet the requirements for all five dimensions of competencies set out above through teamwork;
- keep pace with social and technological developments and with pedagogical developments such as competency-based assessment; and
- incorporate opportunities to systematically evaluate the success of the course in meeting the needs of students and stakeholders, and apply measures to improve the course and its delivery.

4.3 Approaches to Learning in Applied Learning

4.3.1 Understanding the context of the course

The context of an Applied Learning course is generally close to students' daily life experiences, e.g. medical science, design studies, financial management, hospitality.

However, students' own knowledge about the context may be limited to the level of common sense and is often fragmented. As such, through the Applied Learning course, it is essential to provide students with a more systematic understanding about the context, which will include:

- the cluster of professions/trades/industries related to the course;
- the future global and local outlook; and
- the beginners' skill set to facilitate entry to further studies and/or work.

These requirements generally give rise to facts, rules and skills. As such the most effective pedagogical approach towards them is direct teaching, which can include strategies such as:

- lectures;
- guided web-based or other authentic searches of facts;
- demonstration and practice; and
- visits to different workplaces.

4.3.2 Understanding and interpreting workplace requirements

To be an effective practitioner, a defined body of formal knowledge and skills is the necessary, but not sufficient, condition to meet workplace requirements. The important attributes required could include maintaining high standards of ethics and acquiring the latest knowledge to deliver high quality service, etc. In Applied Learning, these attributes are infused in the curriculum pillars of foundation skills, thinking skills, people skills, and values and attitudes and practised through the context provided in the pillar of career-related competencies.

In the study of Applied Learning courses, given the relatively small number of contact hours, it is not possible for students to acquire all the essential knowledge and skills to be an effective practitioner in a particular trade. It is, however, essential that students become aware of the complexity of the workplace and of the fact that mastering technical knowledge and skills is not sufficient in itself to be an effective practitioner. They have to be aware that to become an effective practitioner they must become a lifelong learner, equipping themselves over time with the range of attributes embedded in the Applied Learning curriculum pillars.

Not all knowledge and skills can be learned through direct teaching, nor can positive attitudes. Students need to have authentic, or at least near authentic, experiences in order to develop what is required in the workplace. Teachers should therefore provide learning-by-practising opportunities for students to explore, experience and try out chosen tasks in an authentic or near authentic environment. For example, they might get students to:

- produce an end product in a design course;
- organise a real event in a hospitality course; and
- explore a financial product through a reality check with target customers.

Through the process of adopting strategies to formulate the end product of the task to earn credentials as well as overcoming the obstacles in achieving the ultimate aim of the task through the collaboration of a project team, students would be able to acquire the non-codified knowledge and skills essential to their further studies and adult life.

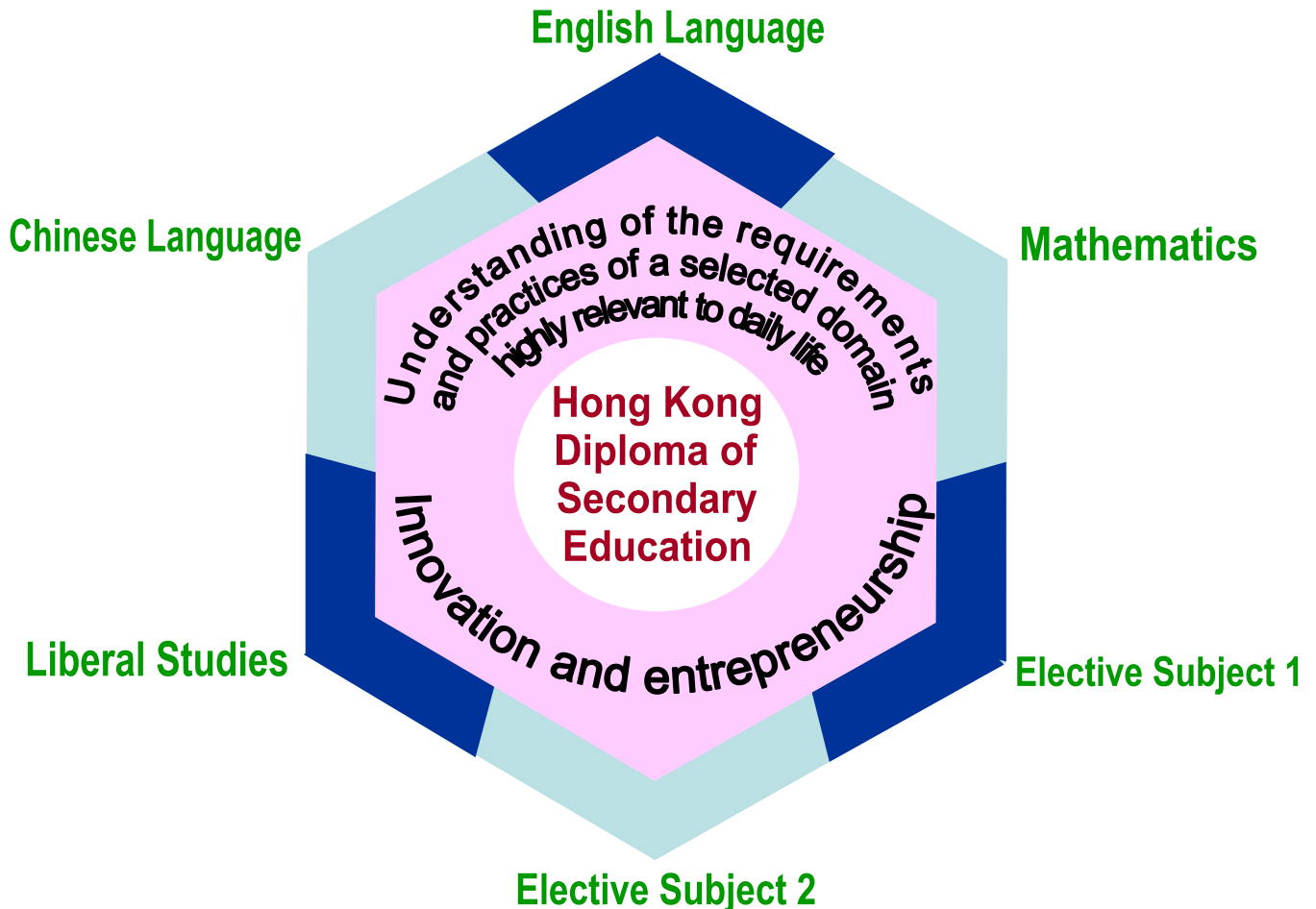
4.3.3 Demonstrating innovation and entrepreneurship

Innovation and entrepreneurship involve:

- seeing failures and threats as an invitation to innovation;
- having a strong knowledge base in a relevant discipline, and a knowledge of relevant processes and tools;
- having strong thinking skills to carry out a systematic analysis of a situation, and exercising problem-solving skills to suggest solutions; and perseverance to put the solutions into practice;
- doing something different rather than simply doing better what is already being done – innovation; and
- being able to shift resources (not limited to physical resources) from areas of low productivity and yield to areas of higher productivity and yield – entrepreneurship.

In the process of learning-by-practising, students develop their learning-to-learn capabilities, internalise knowledge, and build up their confidence. As there is no defined body of knowledge and skills in this process, how much students can gain from it cannot be easily quantified and will vary among individuals.

Innovation and entrepreneurship are embedded in the senior secondary curriculum as indicated in the following diagram:



The keywords are *seeing failures and threats as an invitation to innovation*.

Given the multi-disciplinary nature of the Applied Learning context, students of Applied Learning, after understanding the context of the course, could select an area related to the course, which could be a theme in design, a financial product, etc to conduct an in-depth study, which could be in the form of a project, case study, etc.

This type of learning process not only draws upon a wealth of transferable skills but also a strong knowledge base which students develop from their prior learning in Basic Education, Applied Learning studies as well as other subjects.

In the learning process, some students might be able to go beyond the context of the Applied Learning course to develop application in other areas of their daily life experiences in doing something differently, e.g. apply the knowledge, skills and process in building up an investment portfolio to creating their own portfolio of lifelong learning.

The design of learning activities should encourage innovation and entrepreneurship, which should also be reflected in assessment. For details, please refer to Chapter 5.

Chapter 5 Assessment

This chapter discusses the role of assessment in Applied Learning, the principles that should guide it and the need for both formative and summative assessment. It also provides general guidance on assessment and the principles on the moderation of assessment for Applied Learning subjects. Finally, information is given on how standards are established and maintained, and how results are reported with reference to these standards.

5.1 The Role of Assessment

In the context of Applied Learning, assessment involves generating and collecting evidence of a student's attainment of knowledge, skills, values and attitudes, and judging that evidence against defined standards. Assessment in Applied Learning serves two fundamental purposes: (1) facilitating learning and monitoring student progress, and (2) providing data and information for certification.

5.2 Formative and Summative Assessment

It is useful to distinguish between the two main purposes of assessment, namely 'assessment *for* learning' and 'assessment *of* learning'.

'Assessment *for* learning' is concerned with obtaining feedback on learning and teaching, and utilising this to make learning more effective and to make any necessary changes to teaching strategies. This kind of assessment is referred to as 'formative assessment' because it is about forming or shaping learning and teaching. Formative assessment should take place on a regular basis and typically involves close attention to small 'chunks' of learning.

'Assessment *of* learning' is concerned with determining progress in learning, and is referred to as 'summative assessment', because it is all about summarising how much learning has taken place. Summative assessment is normally undertaken at the conclusion of a significant period of learning and teaching (e.g. at the end of a course/module/unit) and reviews much larger 'chunks' of learning.

In practice, a sharp distinction cannot always be made between formative and summative assessment, because the same assessment can in some circumstances serve both formative and summative purposes. It is desirable that assessments for Applied Learning subjects be designed in such a way as to keep a balance between formative (continuous) assessment tasks conducted throughout the duration of the course and summative (end-of-course) assessment tasks for all students taking the same subject.

5.3 Assessment Objectives

The assessment objectives for individual Applied Learning subject should be closely aligned with its curriculum framework and the broad learning outcomes presented in earlier chapters of this Guide.

Specifically, the assessment objectives of an Applied Learning subject should cover each of the five curriculum pillars stipulated in the curriculum framework:

- Career-related Competencies
- Foundation Skills
- Thinking Skills
- People Skills
- Values & Attitudes

5.4 Assessment of Student Learning

Assessment of student learning in Applied Learning is subject-based and normally conducted by course tutors. Its fairness, objectivity and reliability rely on course tutors' professional judgement based on common assessment criteria and standards outlined in the assessment framework and specified in course documents.

Given the authentic nature of Applied Learning and that student learning is not limited to a defined body of knowledge and skills related to the course context, students' learning process as well as their reflection should carry appropriate weighting in the assessment design.

To this end, it is recommended that assessment tasks be designed so that they can assess a wide range of student learning, from reflecting the achievement of expected learning outcomes to demonstrating the ability to transfer skills acquired to a new context. These include assessment tasks such as written tests, project assessments and video-taped presentations, which can be easily traced back, as well as tasks that require students to demonstrate competency during the learning process, for example, the ability to go about problem-solving in a sensible way, or engage meaningfully in group discussion or class assignment.

The following guiding principles can be used for designing the assessment tasks:

- aligning the assessment tasks with the learning objectives
- catering for the full range of student ability
- tracking progress over time
- providing timely and encouraging feedback
- making reference to students' own school context and daily life situations
- making reference to current progress in student learning

- providing opportunities for peer and self-assessment
- using assessment information to provide feedback

Common Assessment Tasks constitute a core part in the assessment framework for each Applied Learning subject in order to facilitate comparability of assessment results across different classes of the same Applied Learning subject. Common Assessment Tasks can be formative or summative. Such Common Assessment Tasks are to be developed by the course provider and administered mainly by course tutors. It is recommended that the evidence produced by Common Assessment Tasks be more objective in nature so that it can easily be traced back for reviewing. With quality assurance mechanism in place, the results of Common Assessment Tasks can be used to adjust or moderate internally the students' results in other assessment tasks.

5.5 Moderation of Assessment

The aggregated results of all candidates in the same Applied Learning subject are used to determine the attainment level of the subject and subsequently that of this particular group of candidates.

In order to ensure the consistency of assessment standards, Hong Kong Examinations and Assessment Authority is responsible for the moderation of assessment results.

In general, the moderation process involves the reviewing of subject assessment results and selected samples of candidates' work in assessment by a moderation panel. In this process, assessment criteria, achievement standards and adherence to the assessment framework are taken into consideration. Feedback, based on commonly understood expectations, is given to course providers at various stages of the assessment and moderation process to assist course tutors with and/or reassure them on their judgements.

5.6 Standards and Reporting of Results

The assessment results of Applied Learning subjects are recorded in the Hong Kong Diploma of Secondary Education (HKDSE). For the 2012 to 2017 HKDSE Examinations, candidates' performance is reported in two levels: 'Attained' and 'Attained with Distinction'. Effective from the 2018 HKDSE Examination, the reporting of candidates' performance is refined to 'Attained', 'Attained with Distinction (I)' and 'Attained with Distinction (II)'.

A set of written descriptors is developed for the 'Attained' level that describes what a typical candidate of a particular Applied Learning subject performing at this level is able to do. The principle behind these descriptors is that they describe what typical candidates *can do*, not what they *cannot do*. These descriptors necessarily represent 'on-average' statements and may not apply

precisely to individuals, whose performance within an Applied Learning subject may vary. Samples of students' work at the 'Attained' level may be used to illustrate the standards expected of them. These samples, when used together with the written descriptors, illustrate the standards expected.

Regarding the levels of 'Attained with Distinction' (2012 to 2017 HKDSE Examinations), and 'Attained with Distinction (I)' and 'Attained with Distinction (II)' (effective from the 2018 HKDSE Examination), the award is comparable with Category A subjects of the HKDSE Examination, using statistical method.

2012 to 2017 HKDSE Examinations

Performance of 'Attained with Distinction' is comparable to Level 3 or above of Category A subjects of the HKDSE Examination.

Effective from the 2018 HKDSE Examination

Performance of 'Attained with Distinction (I)' is comparable to Level 3 while 'Attained with Distinction (II)' is comparable to Level 4 or above of Category A subjects of the HKDSE Examination.

Examples of Subject Plans and Activities Relevant to the Implementation of Applied Learning

In Secondary 4, the knowledge acquired in the senior secondary subjects acts as a foundation for the study of Applied Learning. At the same time, the study of Applied Learning can benefit students' learning in other senior secondary subjects. Here are some examples of the proposed plans and learning activities in a number of senior secondary subjects for implementing Applied Learning:

A) Core Subjects

Core Subjects	Examples of Planning/Activities for Implementing Applied Learning
Chinese Language	<p>若學校提供應用學習課程，教師亦宜配合學校所開設的課程設計 <i>中國語文科</i> 的學習內容，以幫助學生掌握相關職業所需的知識和能力，如學校開設「商業、管理及法律」範疇的課程，可於 <i>中國語文科</i> 開設選修單元時，加入與商貿相關的元素，如在「普通話傳意和應用」，設計以商業為題的情境；又如在「多媒體與應用寫作」，學習公關寫作，以促進學生對有關行業的認識。</p>
English Language	<p>In the three-year senior secondary curriculum, Applied Learning is designed to provide learners with opportunities to explore and develop their potential talents and career interests. Following the recommendations in the <i>Senior Secondary Curriculum Guide</i> (2009), the three-year senior secondary <i>English Language</i> curriculum supports the learners of Applied Learning by helping them to develop the language knowledge and skills relevant to work in different sectors of the economy.</p> <p>The Compulsory Part of the curriculum introduces learners to a number of work-related topics through a broad range of themes (e.g. study, school life and work, technology, cultures of the world). It provides a variety of learning activities and tasks (including those related to work) to enhance learners' language ability and to develop a wide range of generic skills and world knowledge that they can use in Applied Learning. In the Elective Part, the module "Learning English through Workplace Communication" provides further opportunities for learners who might want to pursue a vocational training path to learn and apply their knowledge and skills in workplace contexts.</p>

Core Subjects	Examples of Planning/Activities for Implementing Applied Learning
Mathematics	<p>For students taking an Applied Learning course as an elective subject, <i>Mathematics</i> teachers are encouraged to incorporate more contextualised examples related to the Applied Learning course to assist students in the elective subject. This, in turn, will benefit the learning and teaching of <i>Mathematics</i>, as these students will have opportunities to apply mathematical knowledge in related Applied Learning contexts.</p> <p>For students taking elective subjects or courses in Applied Learning which require a foundation knowledge of <i>Mathematics</i>, teachers may allocate more lesson time in Secondary 4 and relatively less lesson time in Secondary 5 and Secondary 6 on Mathematics to facilitate the learning and teaching of the elective subjects or the Applied Learning courses concerned.</p>
Liberal Studies	<p>In the three-year senior secondary curriculum, this <i>Liberal Studies</i> curriculum provides a nexus of connections between other core subjects, elective subjects, Applied Learning, and other learning experiences.</p>

B) Elective Subjects

Elective Subjects	Examples of Planning/Activities for Implementing Applied Learning
Economics (Personal, Social and Humanities Education)	<p>This <i>Economics</i> curriculum blends well with courses which prepare students with practical skills for employment in the service sector. Students taking Applied Learning courses together with Economics in Secondary 4 – Secondary 6 are adequately prepared for this pathway. Alternative avenues such as sub-degree programmes and qualifications offered by professional institutions in their respective fields also exist.</p>
Biology (Science Education)	<p>Secondary 4 Exploring different inclinations</p> <p>Biology Foundation topics of the compulsory part</p> <p>and /or</p> <p>Chemistry Foundation topics of the compulsory part</p> <p>and /or</p> <p>Physics Foundation topics of the compulsory part</p> <p>and /or</p> <p>Other elective subject(s)</p> <p>Other options</p> <p>Secondary 5 and Secondary 6 Engaging in different areas of interest</p> <p>Option 1</p> <p>Biology compulsory part & elective part + Chemistry and/or Physics</p> <p>Option 2</p> <p>Biology compulsory part & elective part + Combined Science (Physics, Chemistry)</p> <p>Option 3</p> <p>Biology compulsory part & elective part + elective subject(s) from other Key Learning Areas and/or Applied Learning courses</p> <p>Option 4</p> <p>Combined Science (Biology, Physics) + Chemistry</p> <p>OR</p> <p>Combined Science (Chemistry, Biology) + Physics</p> <p>and/or elective subject(s) from other Key Learning Areas and/or Applied Learning courses</p>
Business, Accounting and Financial Studies (Technology Education)	<p>In the <i>Business, Accounting and Financial Studies</i> curriculum, the compulsory part provides students with essential business knowledge and concepts, preparing them to further their studies through the elective part or Applied Learning courses.</p> <p>At Secondary 4, <i>Business, Accounting and Financial Studies</i> teachers may collaborate with the co-ordinators of Applied Learning courses to organise induction activities to support students in making informed decisions about their study options. For example, a sharing session with students who are studying business-related Applied Learning courses or guest lectures by Applied Learning course providers might complement students' knowledge in studying business at senior secondary level.</p>

Elective Subjects	Examples of Planning/Activities for Implementing Applied Learning
	<p>Secondary 4 Exploring different inclinations</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">Elective Subject X (e.g. ICT, DAT)</div> <div>+</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">BAFS (Compulsory Part)</div> <div>+</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">Elective Subject Y (e.g. ICT, DAT)</div> </div> <p style="text-align: center; margin: 10px 0;">making informed decisions about further studies</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 10px; text-align: center;"> Option 1 BAFS (Elective Part) + other elective subject(s) </div> <div style="border: 1px solid black; padding: 10px; text-align: center;"> Option 2 BAFS (Elective Part) + Business related Applied Learning course(s) </div> <div style="border: 1px solid black; padding: 10px; text-align: center;"> Option 3 Business related Applied Learning course (s) + other elective subject(s) </div> </div> <p style="text-align: right; margin-top: 10px;">Other options</p> <p>Secondary 5 and Secondary 6 Engaging in different areas of interest</p> <p>BAFS = Business, Accounting and Financial Studies ICT = Information and Communication Technology DAT = Design and Applied Technology</p>
Visual Arts (Arts Education)	<p>Knowledge of and skills in art – such as visual elements, principles of organisation, observation skills, and skills for art appreciation and criticism – can be applied to and strengthen students' learning in other subjects such as Literature, Liberal Studies, Design and Applied Technology and Applied Learning.</p> <p>The study of <i>Visual Arts</i> together with Music, Design and Applied Technology or Applied Learning contributes to the building up of a fundamental base preparing students for development in creative industries, such as fashion design, product design, interior design, image design, visual communication, advertising, and multimedia, web-page, television, theatre and film production.</p>
Physical Education (Physical Education)	<p>Based on their interests and career aspirations, some students may opt for <i>Physical Education</i>-oriented Applied Learning courses in Secondary 5 and focus more on practical knowledge about sports coaching and management. It may be necessary for schools to organise their <i>Physical Education</i> Elective curriculum in such a way that their students acquire knowledge of fundamental topics at Secondary 4 and subsequently switch to <i>Physical Education</i>-oriented Applied Learning subjects at Secondary 5. Teachers may consider selecting related topics from different parts to offer a tailor-made programme to support such a transition.</p>

Appendix 2

Examples of Useful Combinations of Applied Learning and Other Elective Subjects

The core/elective subjects and Applied Learning can complement each other through the use of different combinations. Some examples of the combinations are as follows:

Area of Studies	Examples of Applied Learning Courses	Examples of Core/Elective Subjects
Creative Studies	<i>Design Studies</i>	<ul style="list-style-type: none"> • Design and Applied Technology • History • Technology and Living • Visual Arts
	<i>Media Arts</i>	<ul style="list-style-type: none"> • Design and Applied Technology • History • Technology and Living • Visual Arts
	<i>Performing Arts</i>	<ul style="list-style-type: none"> • Chinese History • History • Languages and Literatures • Music
Media and Communication	<i>Films, TV and Broadcasting Studies</i>	<ul style="list-style-type: none"> • Design and Applied Technology • Physics
	<i>Media Writing and Production</i>	<ul style="list-style-type: none"> • Languages
Business, Management and Law	<i>Accountancy</i>	<ul style="list-style-type: none"> • Business, Accounting and Financial Studies • Mathematics
	<i>Financial Services</i>	<ul style="list-style-type: none"> • Business, Accounting and Financial Studies • Economics • Mathematics
	<i>Legal Studies</i>	<ul style="list-style-type: none"> • Health Management and Social Care • Liberal Studies
	<i>Marketing</i>	<ul style="list-style-type: none"> • Business, Accounting and Financial Studies • Economics

Area of Studies	Examples of Applied Learning Courses	Examples of Core/Elective Subjects
Services	<i>Food and Catering</i>	<ul style="list-style-type: none"> • Technology and Living
	<i>Hospitality Services</i>	<ul style="list-style-type: none"> • Business, Accounting and Financial Studies • Tourism and Hospitality Studies • Technology and Living
	<i>Personal and Community Services</i>	<ul style="list-style-type: none"> • Biology • Chemistry • Liberal Studies
Applied Science	<i>Medical Science</i>	<ul style="list-style-type: none"> • Biology • Chemistry • Health Management and Social Care • Integrated Science
	<i>Health Care</i>	<ul style="list-style-type: none"> • Biology • Chemistry • Physics • Technology and Living
	<i>Sports</i>	<ul style="list-style-type: none"> • Health Management and Social Care • Physical Education • Biology
Engineering and Production	<i>Civil Engineering</i>	<ul style="list-style-type: none"> • Design and Applied Technology • Mathematics • Physics
	<i>Information Engineering</i>	<ul style="list-style-type: none"> • Information and Communication Technology
	<i>Mechanical Engineering</i>	<ul style="list-style-type: none"> • Design and Applied Technology • Information and Communication Technology • Integrated Science

Applied Learning
Curriculum Framework

Focus: Creative Studies

Applied Learning – Creative Studies

Creative Studies covers educational activities which focus on creating and adding value to life and to products through engaging the student in creative acts. These acts may include design (graphic, product and interior design, etc), music, drama, dance, writing (creative fiction and scripts for stage or television, etc), photography, illustration, film and video production, digitally-generated art and media (computer animation and computer games, etc). Together, these creative acts are a significant part of the cultural and commercial fabric of contemporary societies, and offer wide-ranging career opportunities for motivated students.

Creative Studies are built around the fundamental human attribute of creative self-expression, conveyed through various media involving visuals (as in photography or illustration), sound (as in music), motion (as in dance) or written or spoken language (as in fiction and drama) – or all of these. Whichever form is chosen, it belongs to, and is conditioned by, specific social and cultural contexts which significantly shape the outcomes of self-expression.

In the context of Applied Learning, students taking courses in Creative Studies develop an understanding of the legal and ethical issues related to creative acts (e.g. plagiarism, appropriation, data privacy, intellectual and cultural property and copyright). Through studies involving design, creative writing, performing arts and media arts, students learn to think, construct and project ideas verbally, visually, aurally and physically, using different media to suit different target audiences, and to learn from each other through appreciation, critique, etc. Equally importantly students identify, explore and develop their ability to give creative life and impact to ideas and perspectives, while simultaneously developing an historical understanding and appreciation of contemporary culture and its making. As a result, they acquire the underpinning knowledge and cognitive skills that equip them for further studies, future career and adult life.

Curriculum Components	Area Specific Examples
1. Career-related Competencies	
1.1 Understanding the context of the course within the wider area of studies	
1.1.1 Cluster of professions/ trades/industries related to the course	<p>Contexts could include but are <u>not</u> limited to:</p> <ul style="list-style-type: none"> - design studies that focus on the understanding, appreciation and production of designed images, products, environment or services, using visual, aural, written and electronic forms. Design can include graphic design, product design, interior and transport design, services design - creative writing that develops skills in different genres (including fiction, poetry, playwriting, screenwriting, literary hypermedia and translation). Students marshal emotions and ideas into constructed artworks for targeted audiences - performing arts that focus on appreciating, creating and delivering aural and physical performances within different contexts. Students learn the techniques of staged and impromptu performances and the impact of culture on the genres and styles of performance - media arts that focus on art works conveyed by multimedia products (including videos, films, computer animation and computer games). Students use the characteristics and limitations of different media and software packages to reflect their ideas

Curriculum Components	Area Specific Examples
1.1.2 Future global and local outlook	<ul style="list-style-type: none"> - The ability of creative individuals to add value to services or products is highly prized by all societies, benefiting all aspects of society, including business - Hong Kong is distinguished by its fusion of Chinese and Western cultures, values and technical knowledge and skills. The unique products, services and performances that result from this fusion provide Hong Kong with a market niche - However, students should be aware of the factors in the macro and micro environments which sustain this niche. They should understand how political and social developments influence the content and style of creative products and services, and how economic and especially technological advances can alter the media of creative communication both globally and locally
1.1.3 Beginners' skill set to facilitate entry to further studies and/or work	<p>Students will be able to:</p> <ul style="list-style-type: none"> - develop an understanding of legal and ethical issues related to creative activities (e.g. plagiarism, appropriation, data privacy, intellectual and cultural property and copyright) - acquire knowledge of artistic practice in a variety of creative domains and the ability to discuss it in terms of originality, artistic and aesthetic choices, and the appeal made to the intended audience - demonstrate the skills of research, analysis and presentation to support the business viability of a product, service, production or performance - develop an ability to compare and evaluate cultural and artistic works and to deploy appropriate critical terms in a variety of domains - demonstrate the ability to work independently on diverse materials and with different media, form sound and autonomous judgements, and present ideas and views effectively in creative communications

Curriculum Components	Area Specific Examples
	<ul style="list-style-type: none"> - select an appropriate medium for a message, and apply the features and techniques of that medium to maximise the impact of their self-expression - acquire and enhance Information Technology skills to access creative materials from diverse sources and use various media to communicate effectively - gain experience in meeting goals and defining, structuring and setting boundaries for a performance or creative product or service - explore the aptitudes and abilities required in selected career clusters in the creative industries, and develop a personal roadmap to articulate to different levels of qualifications
1.1.4 Foundation knowledge developed in basic education and Secondary 4	<p>Built upon the foundation acquired in:</p> <ul style="list-style-type: none"> - Personal, Social and Humanities Education, such as historical and contemporary perspectives to show the interrelationship between words and images in design and ways of representing and interpreting the past and culture, beliefs and behaviours of different nations - Arts Education and Technology Education, such as understanding of technology as a value-added process, understanding of the rapidly changing environment of technologies, and appreciation and critiques in arts - Chinese Language/English Language Education such as language and communication skills - Mathematics Education such as measurements and scale
1.1.5 Possible further study and career pathways	<p>design studies</p> <ul style="list-style-type: none"> - post-secondary courses in jewellery design, visual communication, fashion design, product development - career development: fine artist, photographer, designer in various media, corporate communication designer, commercial artist, illustrator, caricaturist, courtroom artist

Curriculum Components	Area Specific Examples
	<p><i>creative writing</i></p> <ul style="list-style-type: none"> - post-secondary courses in applied literary studies, English application - career development: writer, translator, playwright, novelist <p><i>performing arts</i></p> <ul style="list-style-type: none"> - post-secondary courses in performing arts (drama, dance, music, theatre and technical management) - career development: musician, voiceover artist, narrator, composer, music arranger, dancer, performance artist, stage illusionist, choreographer, theatre designer <p><i>media arts</i></p> <ul style="list-style-type: none"> - post-secondary courses in digital media arts, computer games and animation, multimedia web development, digital entertainment - career development: computer graphics artist, computer game developer, web designer
1.1.6 Relations with core subjects and other elective subjects	<p><i>enhancing and enriching</i>, e.g.</p> <ul style="list-style-type: none"> - Applied Learning courses in design studies, creative writing, performing arts and media arts enhance the breadth and depth of Visual Arts and language studies by applying the concepts to specific fields <p><i>cross fertilisation</i>, e.g.</p> <ul style="list-style-type: none"> - the knowledge base of Applied Learning is rooted in that of other Key Learning Areas, i.e. product design requires scientific and technological knowledge, services need a strong humanities background, etc. By contrasting learning in Applied Learning courses and school subjects, students will better consolidate and reinforce the learning of both

Curriculum Components	Area Specific Examples
	<p>expanding horizons, e.g.</p> <ul style="list-style-type: none"> - students specialising in Science or Humanities may broaden their horizons and enhance their all-round development through enrolling in Applied Learning courses in Creative Studies <p>consolidating and synergising students' studies, e.g.</p> <ul style="list-style-type: none"> - students undertake an in-depth study into a topic/domain of their own choice, which is not limited to the area or any area(s) of Applied Learning, where they have the opportunity to draw upon and integrate the knowledge and skills acquired and developed in their prior learning
1.1.7 Relations with other areas of studies/courses of Applied Learning	<p>Applied Learning courses in Creative Studies can be enriched by the knowledge and skills from other areas, and vice versa. For instance,</p> <ul style="list-style-type: none"> - the underpinning principles of Hospitality Services in the area of Services can be applied to customer service requirements in fields related to Creative Studies
1.2 Understanding and interpreting workplace requirements through practising the basic skills in an authentic or near authentic environment	
1.2.1 Practice learning within at least one representative domain related to the course	<p>Students are given hands-on experiences in an authentic or near authentic environment to explore at least one activity, product or service in depth. For example,</p> <ul style="list-style-type: none"> - to understand requirements in the design industry, students can undertake projects involving each stage of a typical design: starting from the formation of ideas, to materials sourcing, prototyping, production, testing and performance or presentation - to understand requirements in the design of services, students can develop business agility through using "experience prototyping" to test services, and manage the services through applying a "service blueprint"

Curriculum Components	Area Specific Examples
	<ul style="list-style-type: none"> - to understand requirements in creative writing, students can develop scripts with the features and techniques of a specific genre, and can contrast this genre with others to derive best practice techniques - to understand requirements in performing arts, students can present a group drama or dance and use appropriate props, lighting and stage effects (e.g. music) to stage it. Within the performance, individuals can play different performing and producing roles - to understand requirements in media arts, students can develop an animated cartoon sequence to exemplify a game format, and explore the capacity of different software packages to alter or enhance effects
1.2.2 Experiencing workplace requirements through practice	<ul style="list-style-type: none"> - For example, students of creative writing may also consider the creative parallels within interior design, where designs must be feasible, durable and stylish but also in accordance with the safety requirements for materials and ergonomics. Students can discuss these features and the trade-offs made between them in developing a final product and present their ideas in written text. Wherever possible, students should be given the opportunity to demonstrate their understanding in practical work - Similarly, students in performing arts can consider the creative parallels of performance with digital media. The characteristics and effectiveness of different computer software used to present ideas can be discussed, and informed critiques can be made of their advantages and limitations in creating impacts on an audience
1.2.3 Acquiring the knowledge and skills essential to enable further learning within the area	<p>In addition to the generic skills acquired in the duration of a Creative Studies course, students need a firm understanding of:</p> <ul style="list-style-type: none"> - the effects of culture, age and other characteristics of audience in selecting

Curriculum Components	Area Specific Examples
	<p>an appropriate medium of communication</p> <ul style="list-style-type: none"> - the key features of a range of media and their comparative strengths and weaknesses to convey messages - the history that has shaped the media and their current place in contemporary society - the techniques, craft knowledge and specialist vocabulary that characterise a creative domain - the importance of identifying the key ideas or themes that underpin a product, service or performance, and defining the creative angle that may add impact to them - the ability to stand back and critique one's own products or performances, and those of others, and identify their cultural and intellectual assumptions
1.2.4 Transferring learning to unfamiliar situations within related domains	<ul style="list-style-type: none"> - Students can, for example, adopt different roles in the creative domain. In performing arts, students can play the role of a marketing agent, a stage or film producer, or a production manager to extend their skills as a performer. Other roles they can play include lighting designer, film editor, play director or choreographer - In creative writing, students can try their hand at adapting an existing art work to a new genre, e.g. transferring a work of fiction to a television script; or altering the audience for an existing work from adults to young children - In all domains students can demonstrate interpersonal, teamwork and leadership skills in new contexts which require writing, design or performance. For instance, students of dance can try their hand at choreographing a dance on a known theme, setting it to music, and extending some of the ideas to a new theme

Curriculum Components	Area Specific Examples
<p>1.3 Developing and applying conceptual, practical and reflective skills to demonstrate innovation and entrepreneurship</p>	<p>Through elective studies, case studies, project, etc, some students, with the support of tutors, may be able to demonstrate their learning beyond the level of information, knowledge and skill development to the level of conceptualising and meta-understanding, by drawing upon and integrating their learning across the curriculum and applying it to solve daily problems.</p> <p>For example, students can apply the knowledge and skills related to the design cycle when organising extra-curricular activities in school. In the process, students:</p> <ul style="list-style-type: none"> • generate ideas and identify their intended audience (e.g. work out what kind of activities their intended audience might wish to participate in) • research into a theme (e.g. develop ideas within a meaningful theme for an activity with particular objectives) • gather materials required for the activity (e.g. estimate the resources required for the activity and choose the medium of communication for presenting the activity) • work out a prototype taking into consideration likely constraints (e.g. identify the resource constraints and explore implementation strategies) • present the plan and test the initial ideas of the activity in teams (e.g. choose appropriate media through which to present the ideas with team members and respect everyone's views in the process) • evaluate the activity and make changes as appropriate
<p>1.3.1 Transferring learning to new environments</p>	<ul style="list-style-type: none"> - Students can be challenged to apply the cycle of creativity (ideas generation, researching, material gathering, prototyping, etc) to areas outside Creative Studies, such as developing new business opportunities - Equally, students can test their capacities and capabilities by applying their skills in communicating ideas to a service industry (such as child care or sports coaching) where imagination, interest and motivation are key - The generic skills of exploring ideas and appreciating and critiquing the ideas of others can be applied to many new circumstances across all spheres of life

Curriculum Components	Area Specific Examples
1.3.2 Demonstrating the understanding of key issues in a chosen domain, including cultural aspects	<ul style="list-style-type: none"> - Students should be able to identify and describe trends in design, media arts and performing arts and discuss how the issues of time, place and cultural influence are reflected in the creative works, and how these factors have shaped contemporary interpretations
1.3.3 Discussing the global and local environment in that particular domain	<ul style="list-style-type: none"> - Students should articulate how personal beliefs, cultural traditions, and current social, economic, and political contexts influence the interpretation of the meaning or message in creative works
1.3.4 Suggesting and illustrating opportunities for learning, development, etc related to the course	<p>For example, students can be encouraged to:</p> <ul style="list-style-type: none"> - build up a career portfolio in a domain of creative studies, such as dance or music, or graphic design - take an inventory of personal strengths and weaknesses by constructing a personal scorecard - explore up to three selected career clusters and up to three pathways within these clusters (in terms of the required aptitudes and abilities) and identify a roadmap for acquiring the basic knowledge and skills using the personal scorecard - cultivate creativity by considering the impact of different cultural, intellectual or emotional perspectives on different media - describe recently changing requirements of the workplace, and relate them to developing trends within a creative domain - discuss the relationship between lifelong learning and career development by outlining some existing professional development opportunities offered within a domain

Integration of foundation skills, thinking skills, people skills, and values and attitudes through application in the career competencies related to Creative Studies

Curriculum Components	Area Specific Examples (Optional)
2. Foundation Skills	
2.1 Communication skills (including languages), such as understanding, developing and communicating ideas and information and interacting with others	<ul style="list-style-type: none"> - Communicate verbally through spoken and written texts, and non-verbally through dance, drama and music, etc - Demonstrate cross-cultural awareness through role plays and scripts that portray and highlight differences and misunderstandings - Master technical languages, e.g. of design, digital multimedia, theatre and dance
2.2 Numeracy skills , such as integrating and applying numerical and spatial concepts and techniques	<ul style="list-style-type: none"> - Apply knowledge in numeracy and spatial concepts and techniques during the process of design - Apply knowledge in measures, shape and space to formulate and solve two-dimensional and three-dimensional problems in design tasks
2.3 Information technology skills , such as using and adapting technologies	<ul style="list-style-type: none"> - Employ the latest available technology and media for creative production in media arts, theatre, photography, dance and design - Make use of information technology (e.g. audio-visual equipment, computer presentation software, computer graphics software) to present ideas
3. Thinking Skills	
3.1 Problem-solving and decision-making skills , such as identifying problems and providing appropriate solutions, taking into consideration social, economic and technological developments	<ul style="list-style-type: none"> - Identify problems and think laterally to solve problems - Adapt media to suit specific audiences, or present innovative designs that serve particular customer needs - Develop global perspectives on social, economic and technological changes by showing the relationships between local events and regional and global circumstances
3.2 Analytical skills , such as recognising when and what information is needed, locating and obtaining it from a range of sources and evaluating, using and sharing it with others	<ul style="list-style-type: none"> - Analyse the characteristics of customers, and tailor performances, products and services to suit them - Research and identify the gaps in knowledge and expectations and shape the messages or products and services to address those gaps

Curriculum Components	Area Specific Examples (Optional)
3.3 Creative thinking skills , such as visualising consequences, thinking laterally, recognising opportunities and potential, testing multiple options, and engaging with the artistic, cultural and intellectual work of others	<ul style="list-style-type: none"> - The skills set out in the left hand column are at the heart of Creative Studies. They are described elsewhere in the remainder of this document
3.4 Understanding interdependency and relationships between different areas of studies, societies and civilisations to form regional/global perspectives on social, economic and technological changes , such as describing patterns, structures and relationships, and making and interpreting predictions	<ul style="list-style-type: none"> - Understand how the interdependency and relationships between different societies and civilisations have influenced designs and art works - Understand how cultural differences and values influence designs, art works and media of communication. One example is how the human body has been viewed throughout the ages by different cultures
4. People Skills	
4.1 Self-reflection and self-management skills , such as setting schedules of tasks for completion, and reflecting on goals and targets set	<ul style="list-style-type: none"> - Set priorities, goals and targets within time frames specific to the tasks to be performed, and factor in the constraints in time and resources in fulfilling work commitments
4.2 Interpersonal skills , such as interacting with other people and cultures and contributing to the community	<ul style="list-style-type: none"> - Understand the interdependency of roles, responsibilities and relationships in creating designs, artworks and performances. The creative industry is highly team-oriented - Communicate in ways that reflect international and cultural differences in different customers or audiences, and demonstrate skills in negotiation and compromise
4.3 Collaborative and team building skills	<ul style="list-style-type: none"> - Understand and apply the principles of group dynamics to develop a collaborative culture

Curriculum Components	Area Specific Examples (Optional)
5. Values and Attitudes	
5.1 Honesty and integrity , such as understanding the importance of perseverance and transparency	<ul style="list-style-type: none"> - Be open and clear in critiquing and appreciating the work of others - Recognise that plagiarism and copying without permission are inimical to creativity - Learn humbly from mistakes - Develop confidence in one's abilities
5.2 Dependability and responsibility , such as being trustworthy and behaving responsibly	<ul style="list-style-type: none"> - Demonstrate dependability and trust through being trustworthy and trusting others - Maintain professional behaviours and positive attitudes while under pressure - Be accountable for one's behaviour and its effects on others
5.3 Enthusiasm and motivation to participate actively in life	<ul style="list-style-type: none"> - Develop curiosity - Appreciate the endeavours and work of others with sensitivity - Take calculated risks and assume responsibility for the outcome
5.4 Willingness to learn , such as being self-motivated in learning	<ul style="list-style-type: none"> - Be a reflective lifelong learner, and be willing to admit mistakes and start again
5.5 Self-confidence and self-esteem , such as being confident in one's own abilities and potential for personal growth and developing attachment to the culture of a chosen group	<ul style="list-style-type: none"> - Demonstrate a sense of commitment towards one's self, the community, the nation and the shared world - Be self-confident when presenting ideas and receptive to others' advice or criticisms - Develop self-esteem through successfully completing creative works or performances
5.6 Respect for others and for law and authority , such as recognising the right of everybody to feel valued and be safe, and achieving a balance between rights and obligations	<ul style="list-style-type: none"> - Respect diversity in the workplace when working with customers - Be aware of the effects of personal beliefs and attitudes on decision-making - Understand various legal and ethical issues related to design activities, such as plagiarism, appropriation, data privacy, intellectual and cultural property and copyright

Applied Learning
Curriculum Framework

Focus: Media and Communication

Applied Learning – Media and Communication

Applied Learning courses in Media and Communication focus on the application of different media in the communication of ideas and messages to different target audiences. Media can include print media, such as posters, books and newspapers, and non-print media, such as the Internet, films, television and radio.

In the context of Applied Learning, students studying courses in Media and Communication have opportunities to acquire basic knowledge and skills, as well as the concepts, ethics, values and attitudes which characterise Media and Communication. Students learn to understand what constitutes innovation and creativity, appreciate the importance of originality and respect copyright and intellectual property. The courses also help develop their sense of social responsibility and entrepreneurship.

The courses cover the cultural dimensions of communication and the importance of balancing the public's right to know, with the rights of individuals and organisations to privacy. This balance must also include the obligation of governments to protect public interest.

Curriculum Components	Area Specific Examples
1. Career-related Competencies	
1.1 Understanding the context of the course within the wider area of studies	
1.1.1 Cluster of professions/ trades/industries related to the course	<p>Contexts could include but are <u>not</u> limited to:</p> <ul style="list-style-type: none"> - <i>films, television and broadcasting studies</i>, where students learn how to formulate and convey concepts through visual objects, moving images or sound (via film, television, video, radio and digital media) - <i>news media</i>, where students collect, analyse and verify information, before writing, editing, reporting or presenting in print, on television or radio, online or in other new media formats - <i>radio and television production</i>, where students learn about various kinds of programmes in audio-visual channels. It covers planning, research, analysis, production, promotion and programming - <i>public relations and advertising</i>, where students identify target audiences, plan marketing strategies (which may involve research analysis and media relations), and design and develop an advertising campaign to fit the strategies
1.1.2 Future global and local outlook	The economic and educational development of society coupled with rapid development of technologies mutually reinforce the ever-growing demands and the market for media production globally and locally
1.1.3 Beginners' skill set to facilitate entry to further studies and/or work	<p>The intense competition of the media market and debate on social and political issues place high importance upon critical thinking skills.</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> - understand the media ethics involved in the disclosure and free flow of information, the core values of honesty and fairness, and the respect for confidentiality, privacy, copyright and intellectual property, etc - understand the specialised terms and language used in the media industry, and

Curriculum Components	Area Specific Examples
	<p>use them during discussion, presentation and project work</p> <ul style="list-style-type: none"> - communicate effectively with parties within and outside the production team - apply skills of sensitivity and observation towards people, issues and events - understand the relationship between the media, media products and society in the past, present and future - analytically and critically appraise historical events and current issues - create, produce and disseminate ideas to the public through different media platforms - develop the skills to operate as an effective member of a production team - explore the aptitudes and abilities required in selected career clusters in media and communication, and develop a personal roadmap to articulate to different levels of qualifications
1.1.4 Foundation knowledge developed in basic education and Secondary 4	<p>Building upon the foundation acquired in:</p> <ul style="list-style-type: none"> - Technology Education, such as information processing, editing and transforming - Personal, Social & Humanities Education, such as self development, the impact of man upon the environment, society and culture, and the meaning of citizenship - Science Education, such as the underpinning and unifying concepts of scientific enquiry - Chinese Language/English Language Education, such as the capability to acquire, develop and apply languages to communicate with others - Mathematics Education, such as number and algebra, measures, shape and space, and data handling - Arts Education, such as lines, space, colour, two-dimensional graphics, three-dimensional forms; the main forms of classical and popular music; and the production of music and lyrics
1.1.5 Possible further study and career pathways	<p><i>films, TV and broadcasting studies</i></p> <ul style="list-style-type: none"> - post-secondary courses in screen studies, film making, creative arts, digital arts - career development: film director, film script writer, assistant director, television

Curriculum Components	Area Specific Examples
	<p>producer, production assistant, post production assistant, studio producer, electronic technician, camera operator, software applications support specialist, machine room assistant, reviewer and film critic</p> <p>news and media</p> <ul style="list-style-type: none"> - post-secondary courses in journalism, creative writing, cultural studies, communication studies - career development: journalist, editor, news anchor, programme host, historian, writer, interviewer, book editor, magazine writer and editor, publication manager, co-ordinator in business and government, corporate communications manager, broadcast news analyst <p>radio and television production</p> <ul style="list-style-type: none"> - post-secondary courses in radio, television and film studies, screen studies, broadcasting, programme/event management - career development: programme host, researcher, production assistant, stage manager, television/radio/film producer, director <p>public relations and advertising</p> <ul style="list-style-type: none"> - post-secondary courses in advertising, public relations, marketing, strategic planning, business studies, humanities, communication, telecommunications - career development: marketing assistant, advertising co-ordinator, media buyer, public relations officer, media consultant, media account executive, media researcher, advertising product designer, communication trainer, speech writer, event planner, public relations consultant, campaign planner
1.1.6 Relations with core subjects and other elective subjects	<p>enhancing and enriching, e.g.</p> <ul style="list-style-type: none"> - Media and Communications provide a platform to use and enhance the skills and techniques acquired in Information and Communication Technology, such as applying foundation skills and knowledge in information technology to production

Curriculum Components	Area Specific Examples
	<p>and post production processes</p> <p>cross-fertilisation, e.g.</p> <ul style="list-style-type: none"> - applying knowledge and skills from Chinese Language/English Language, such as choosing the right vocabulary for a particular audience, and phrasing a message, to an Applied Learning course in radio host presentation skills, consolidating language proficiency in both subjects <p>expanding horizons, e.g.</p> <ul style="list-style-type: none"> - courses in Media and Communication can enhance the all-round development of students taking Science or Humanities by broadening their views and helping them explore their aptitudes and different intelligences <p>consolidating and synergising students' studies, e.g.</p> <ul style="list-style-type: none"> - students undertake an in-depth study into a topic/domain of their own choice, which is not limited to the area or any area(s) of Applied Learning, where they have the opportunity to draw upon and integrate the knowledge and skills acquired and developed in their prior learning
1.1.7 Relations with other areas of studies/courses of Applied Learning	<p>Applied Learning courses in Media and Communication can be enriched by the knowledge and skills from other areas of studies, and vice versa. For instance, the other five areas of studies can:</p> <ul style="list-style-type: none"> - provide content for the creation of media products - provide complementary knowledge, such as the concept of customer orientation from Services, the spirit of innovation from Creative Studies, the management and legal principles from Business, Management and Law, and logical thinking from Applied Science

Curriculum Components	Area Specific Examples
1.2 Understanding and interpreting workplace requirements through practising the basic skills in an authentic or near authentic environment	
1.2.1 Practice learning within at least one representative domain related to the course	Students are given hands-on experiences in an authentic or near authentic environment to explore at least one activity, product or service in depth. For example, <ul style="list-style-type: none"> - students can apply the knowledge and skills acquired in film studies to video programming or web advertising
1.2.2 Experiencing workplace requirements through practice	There are professional requirements for various aspects of Media and Communications, e.g. <ul style="list-style-type: none"> - the technical requirements for audio and video recording, and professional scripting for creating a storyboard
1.2.3 Acquiring the knowledge and skills essential to enable further learning within the area	Students should be able to: <ul style="list-style-type: none"> - explore career opportunities across a variety of local and regional media organisations - communicate effectively in diverse social and media settings - apply research, critical thinking, and self-reflection skills - use basic media tools, e.g. camera, sound tape, lighting equipment, editing facilities
1.2.4 Transferring learning to unfamiliar situations within related domains	Media products are multi-disciplinary. Students should be able to transfer their learning from one medium (e.g. radio) to another (e.g. the Internet)
1.3 Developing and applying conceptual, practical and reflective skills to demonstrate innovation and entrepreneurship	
<p>Through elective studies, case studies, project, etc, some students, with the support of tutors, may be able to demonstrate their learning beyond the level of information, knowledge and skill development to the level of conceptualising and meta-understanding, by drawing upon and integrating their learning across the curriculum and applying it to solve daily problems.</p> <p>For example, students can apply the knowledge and skills involved in effective communication to organise a school-based activity such as celebration of school anniversary or school cleaning campaign. In the process, students:</p> <ul style="list-style-type: none"> • identify target participants (e.g. junior or senior form students) • consider factors such as the age group, family background, historical background of the school and the cultural characteristics of the participants • identify the theme of the activity and match it with other factors 	

Curriculum Components	Area Specific Examples
<ul style="list-style-type: none"> highlight main issues involved in the theme and disseminate them through different channels (e.g. leaflets, posters, campus TV, school intranet) highlight key messages and create a conducive atmosphere for the activity using multiple media platforms in an effective and responsible manner 	
1.3.1 Transferring learning to new environments	<p>Students should be able to transfer their knowledge and skills from media industry to new situations and contexts</p> <ul style="list-style-type: none"> e.g. learning derived from the analysis of target audiences and positioning in film studies can be applied to designing promotion messages to create demand for a new product in the existing market
1.3.2 Demonstrating the understanding of key issues in a chosen domain, including cultural aspects	<p>Students learn to be sensitive to people and to current and controversial issues in society. Students learn to observe trends and make use of this observation skill to predict future trends with regard to particular issues</p>
1.3.3 Discussing the global and local environment in that particular domain	<p>The advance in technology of the Internet has reduced the barriers of language, time, race and space to create an expanding market for all kinds of media products. Students can analyse and compare issues and their impact in different countries</p>
1.3.4 Suggesting and illustrating opportunities for learning, development, etc related to the course	<p>For example, students can be encouraged to:</p> <ul style="list-style-type: none"> build up their personal networks and strategic relationships both inside and outside their community gather crucial information to produce specialised media material, such as news, feature stories and press releases demonstrate basic skills involved in writing, announcing, producing and staging for print, television, radio and online media transfer critical thinking and analytical skills from the media industry to analysis of current issues

Integration of foundation skills, thinking skills, people skills, and values and attitudes through application in career competencies related to Media and Communication

Curriculum Components	Area Specific Examples (Optional)
2. Foundation Skills	
2.1 Communication skills (including languages), such as understanding, developing and communicating ideas and information and interacting with others	<ul style="list-style-type: none"> - Communicate in a clear, courteous, concise, complete and concrete way, appropriate to the purpose and audience, through spoken, written and graphical means of expression, such as <ul style="list-style-type: none"> • preparing press releases and public service announcements • preparing documentaries using audio-visual effects and digital imaging • researching, analysing and preparing an oral presentation/written report on marketing options for a target audience
2.2 Numeracy skills , such as integrating and applying numerical and spatial concepts and techniques	<ul style="list-style-type: none"> - Apply mathematical knowledge in analysing, interpreting and presenting data collected from different sources for tasks, such as defining the market share for print media - Calculate and compare the budget, cost, and profit/loss of a special project
2.3 Information technology skills , such as using and adapting technologies	<ul style="list-style-type: none"> - Use software effectively to communicate, access and transfer information - Use different peripherals, hardware and media-related technology
3. Thinking Skills	
3.1 Problem-solving and decision-making skills , such as identifying problems and providing appropriate solutions, taking into consideration social, economic and technological developments	<ul style="list-style-type: none"> - Anticipate potential problems in a media production and provide measures or a contingency plan to alleviate their impact - List the characteristics of a target audience and prepare instant remedies for mistakes or defects in live shows or phone-in programmes
3.2 Analytical skills , such as recognising when and what information is needed, locating and obtaining it from a range of sources and evaluating, using and sharing it with others	<ul style="list-style-type: none"> - Critically analyse current issues by linking them to their historical causes - Apply the conventions and styles appropriate to selected audiences - Conduct market analysis on existing and potential customers - Conduct competitive analysis on similar products

Curriculum Components	Area Specific Examples (Optional)
3.3 Creative thinking skills , such as visualising consequences, thinking laterally, recognising opportunities and potential, testing multiple options, and engaging with the artistic, cultural and intellectual work of others	<ul style="list-style-type: none"> - Adopt creative approaches to generate high impact products and disseminate messages to the public - Predict future trends in social, economic, political, cultural and environmental issues
3.4 Understanding interdependency and relationships between different areas of studies, societies and civilisations to form regional/global perspectives on social, economic and technological changes , such as describing patterns, structures and relationships, and making and interpreting predictions	<p>Outline the impact of the following on the media:</p> <ul style="list-style-type: none"> - global markets - changes in technology - changing cultural norms and expectations - changing demographics - changing consumer behaviour
4. People Skills	
4.1 Self-reflection and self-management skills , such as setting schedules of tasks for completion, and reflecting on goals and targets set	<ul style="list-style-type: none"> - Set priorities, goals, targets and time frames for a media production - Conduct research and survey to investigate the effectiveness of a structured communication - Identify personal strengths and weaknesses to assist planning for further studies or career pathways
4.2 Interpersonal skills , such as interacting with other people and cultures and contributing to the community	<ul style="list-style-type: none"> - Understand the common roles and functions performed within typical media organisations - Communicate effectively both within and outside of a production team - Use appropriate strategies to identify and handle conflicts of interest and cultural differences - Accept new ideas and make constructive compromises with different parties
4.3 Collaborative and team building skills	<ul style="list-style-type: none"> - Demonstrate collaborative and team building skills while constructing structured communications and performing media productions

Curriculum Components	Area Specific Examples (Optional)
5. Values and Attitudes	
5.1 Honesty and integrity , such as understanding the importance of perseverance and transparency	<ul style="list-style-type: none"> - Understand the critical importance of honesty and integrity in communications that reach and influence a wide range of audiences - Pursue targets and goals with disciplined application
5.2 Dependability and responsibility , such as being trustworthy and behaving responsibly	<ul style="list-style-type: none"> - Maintain professional behaviours and positive attitudes while under pressure - Learn from mistakes - Be accountable for one's behaviour and its effects on others
5.3 Enthusiasm and motivation to participate actively in life	<ul style="list-style-type: none"> - Develop curiosity, sensitivity, enthusiasm, concern and appreciation for all aspects of media and communication - Use media for a positive impact on others
5.4 Willingness to learn , such as being self-motivated in learning	<ul style="list-style-type: none"> - Actively participate in group discussions and projects - Seek out, research and use emerging media - Nurture interests in related industries to broaden knowledge and skills
5.5 Self-confidence and self-esteem , such as being confident in one's own abilities and potential for personal growth and developing attachment to the culture of a chosen group	<ul style="list-style-type: none"> - Extend confidence in work to social settings - Voice opinions and give constructive suggestions on issues - Listen carefully to other views and weigh up options and alternatives
5.6 Respect for others and for law and authority , such as recognising the right of everybody to feel valued and be safe, and achieving a balance between rights and obligations	<ul style="list-style-type: none"> - Respect diversity in the workplace when working with others - Seek consensus whenever possible, but make hard decisions when compromises are not possible - Understand, follow and activate the rights bestowed by law and authority, but respect the parallel obligations - Understand the relationships between social values, media texts and society

Applied Learning Curriculum Framework

Focus: Business, Management and Law

Applied Learning – Business, Management and Law

Business, Management and Law are interrelated. There is a focus on creating value through commercial transactions in products and services in business. Both business and law are served through the promotion of strategic and operational practices to ensure efficient and effective outcomes in management. Law involves the regulation of personal, social, commercial and international business relationships and agreements.

In the context of Applied Learning, students taking courses in Business, Management and Law are provided with the opportunities to apply business principles and develop methodical approaches for analysis, problem-solving and decision-making in their daily life. Students acquire the knowledge and skills to establish facts which help them to arrive at evidence-based decisions, taking into account the ethics in creating value (including its cultural, ethnic, social and national dimensions) and the legal environment in business. They also learn to identify the relationship between opportunity and risk and how to sustain value over time.

Business, Management and Law is a broad area of studies, including business administration, accountancy, financial management/services, entrepreneurial studies, legal studies. Through these contexts, students learn that sound decision making in business involves a holistic approach in utilising knowledge, skills and insights. With the cognitive skills acquired as well as the values and attitudes developed, students are equipped for their further studies, future career and adult life.

Curriculum Components	Area Specific Examples
1. Career-related Competencies	
1.1 Understanding the context of the course within the wider area of studies	
1.1.1 Cluster of professions/ trades/industries related to the course	<p>Contexts could include but are <u>not</u> limited to:</p> <ul style="list-style-type: none"> - business administration, where students learn about office administration (which may also involve some finance and human resources issues), covering areas such as contract law, general office administration, property management, management accounting and people management - accountancy, where students learn the language of business, the principles and techniques for financial recording and reporting, planning and budgeting, analysis, and how to competently manage the financial resources of companies - financial management/services, where financial management students learn about the characteristics and risks of different kinds of retail financial products and regulations of the financial market, the financial planning process and construction of investment portfolios. In financial services, students learn about the role of different intermediaries in the financial market, the nature and process of different kinds of financial transactions, best practices for servicing clients and client relationship management - business communications, where students learn about the identification of stakeholders and communication strategies for different stakeholder groups, which may cover areas such as business writing and presentation techniques, media relations, image and profile management

Curriculum Components	Area Specific Examples
	<ul style="list-style-type: none"> - marketing, where students learn how to analyse customer markets (through data management), and how to determine product mix, pricing, promotion, distribution and customer support services - entrepreneurial studies, where students learn to recognise and act on new value-adding opportunities by providing value-added solutions (including brand building, product development and production, marketing, operations and management, managing people, office administration for small and medium enterprises) - legal studies, where students understand how the law affects businesses and the individual in sustaining a just society based on equality, rights and responsibilities
1.1.2 Future global and local outlook	<ul style="list-style-type: none"> - Students learn how rapid technological changes and increasing global competition have moved Hong Kong's economy up the value-added chain towards higher value-added products/services and a more knowledge-based society, harnessing the attributes of quality, speed and creativity which they experience in daily life - Students also learn that political and economic alliances narrow the spatial distance between countries and increase the interdependency of different business sectors. Local political, socio-economic and environmental changes can create chain effects on business, and vice versa, for example, the future impact on human capital, financial resource and raw material movement
1.1.3 Beginners' skill set to facilitate entry to further studies and/or work	<p>Students will be able to:</p> <ul style="list-style-type: none"> - identify value-adding opportunities - develop a business case - identify and assess the legal (regulatory) requirements that businesses commonly

Curriculum Components	Area Specific Examples
	<p>face</p> <ul style="list-style-type: none"> - apply the principles and techniques of management to maximise and sustain value - plan, organise, allocate and account for personal and corporate resources - understand business ethics - become aware of legal issues related to different professions - understand and evaluate the interrelationship of political, socio-economic, technological and cultural factors on business, management and law - analyse a business's strengths, weaknesses, opportunities and threats - understand and explore careers in business, management and law
1.1.4 Foundation knowledge developed in basic education and Secondary 4	<p>Building upon the foundation acquired in:</p> <ul style="list-style-type: none"> - Technology Education, such as strategies and management, information processing and presentation, consumer education - Personal, Social & Humanities Education, such as resource usage in economic activities, social systems and the meaning of citizenship - Chinese Language/English Language Education, such as the capability to use language to acquire, apply and communicate knowledge - Mathematics Education such as number and algebra, measures, shape and space, and data handling
1.1.5 Possible further study and career pathways	<p>business administration</p> <ul style="list-style-type: none"> - post-secondary courses in business administration and management, commerce, human resource management - career development: office manager, administrative assistant, business executive <p>accountancy</p> <ul style="list-style-type: none"> - post-secondary courses in finance and accounting, commerce, business studies,

Curriculum Components	Area Specific Examples
	<p>law and taxation</p> <ul style="list-style-type: none"> - career development: accountant, auditor, tax assessor, business executive, management consultant <p><i>financial management/services</i></p> <ul style="list-style-type: none"> - post-secondary courses in financial and banking studies, economics, actuarial science, investment and risk management, accounting - career development: financial planner, investment adviser, insurance agent, broker, bank officer, customer service representative, account relationship manager <p><i>business communications</i></p> <ul style="list-style-type: none"> - post-secondary courses in business administration, public relations - career development: public relations officer, brand executive, corporate communications executive <p><i>marketing</i></p> <ul style="list-style-type: none"> - post-secondary courses in marketing, global trade - career development: market research analyst, marketing executive, sales representative <p><i>entrepreneurial studies</i></p> <ul style="list-style-type: none"> - post-secondary courses in business administration and management, commerce - career development: entrepreneur, business executive <p><i>legal studies</i></p> <ul style="list-style-type: none"> - post-secondary courses in legal studies, criminal justice and public order, public administration, social sciences - career development: solicitor, barrister, legal counsel, police officer, law enforcer, paralegal, company secretary
1.1.6 Relations with core subjects and other elective	<p><i>enhancing and enriching</i>, e.g.</p> <ul style="list-style-type: none"> - while Business, Accounting and Financial

Curriculum Components	Area Specific Examples
subjects	<p>Studies provide students with a macro view of business, Applied Learning courses in accountancy, finance and marketing provide a platform to enhance the breadth and depth of studies in specific fields</p> <p><i>cross-fertilisation</i>, e.g.</p> <ul style="list-style-type: none"> - the application of concepts from Economics in Applied Learning courses such as accounting and entrepreneurial studies consolidates and reinforces the learning of both subjects <p><i>expanding horizons</i>, e.g.</p> <ul style="list-style-type: none"> - students specialising in Science or Humanities may broaden their horizons, explore their aptitudes and develop their different intelligences, thereby enhancing their all-round development through enrolling in Applied Learning courses in Business, Management and Law <p><i>consolidating and synergising students' studies</i>, e.g.</p> <ul style="list-style-type: none"> - students undertake an in-depth study into a topic/domain of their own choice, which is not limited to the area or any area(s) of Applied Learning, where they have the opportunity to draw upon and integrate the knowledge and skills acquired and developed in their prior learning
1.1.7 Relations with other areas of studies/courses of Applied Learning	<p>Applied Learning courses in Business, Management and Law can be enriched by the knowledge and skills from other areas, and vice versa. For instance,</p> <ul style="list-style-type: none"> - the other five areas of studies can supply ideas for creating new value-adding opportunities - the other areas of studies also provide complementary knowledge and skills, such as the concept of customers orientation from Services, the spirit of innovation from Creative Studies, and logical thinking from Applied Science

Curriculum Components	Area Specific Examples
1.2 Understanding and interpreting workplace requirements through practising the basic skills in an authentic or near authentic environment	
1.2.1 Practice learning within at least one representative domain related to the course	<p>Students are given hands-on experiences in an authentic or near authentic environment to explore at least one activity, product or service in depth. For example,</p> <ul style="list-style-type: none"> - in the financial services industries, students can explore products manifesting different levels of financial risk for customers with different profiles. They should also explore the functions of the regulatory bodies, and the requirements applied to the non-banking financial sector such as insurance or securities, through regulators and self-regulatory bodies
1.2.2 Experiencing workplace requirements through practice	<ul style="list-style-type: none"> - For example, students of accounting can discuss the role and requirements of an auditor - Similarly, logistics students can discuss the function and requirements of a freight forwarder in serving the needs of customers
1.2.3 Acquiring the knowledge and skills essential to enable further learning within the area	<ul style="list-style-type: none"> - Use knowledge acquired and research skills to explore career opportunities in business, management and law - Communicate effectively in diverse social and business settings - Use information and communication technology tools for making personal and business decisions
1.2.4 Transferring learning to unfamiliar situations within related domains	<ul style="list-style-type: none"> - For example, students can be challenged to transfer the skills acquired in marketing to situations in which they are consumers - Similarly, they can apply the critical thinking and problem-solving skills required by various roles to other roles, e.g. being a business owner to being an employee - Students should demonstrate the interpersonal, teamwork, and leadership skills needed to function in diverse business settings

Curriculum Components	Area Specific Examples
1.3 Developing and applying conceptual, practical and reflective skills to demonstrate innovation and entrepreneurship	<p>Through elective studies, case studies, project, etc, some students, with the support of tutors, may be able to demonstrate their learning beyond the level of information, knowledge and skill development to the level of conceptualising and meta-understanding, by drawing upon and integrating their learning across the curriculum and applying it to solve daily problems.</p> <p>For example, students can apply the knowledge and skills derived from building up an investment portfolio to the creation of their own portfolio of studies. In the process, students:</p> <ul style="list-style-type: none"> • consider their goals (e.g. what careers they aspire to) • analyse their personal assets (e.g. individual skills and abilities, interests and aptitudes, strengths and weaknesses, and values) • undertake research to identify the skills and education that the careers require • decide how much they can afford to invest in such requirements in terms of time and effort • determine how much risk they are willing to take (e.g. consider what if the outcomes do not turn out as intended because of constraints in capability, resources, or changes in the environment, etc) • solicit guidance and advice; put together the portfolio of studies (e.g. subject combination, studies pathways, participation in school or community activities, career exploration activities, checklist for building up collection of exemplary classroom work and awards) • test the initial plans; re-evaluate the portfolio and make changes as appropriate
1.3.1 Transferring learning to new environments	<ul style="list-style-type: none"> - Students can apply their business knowledge and skills to developing value-adding opportunities - Students test their capacities and capabilities through: <ul style="list-style-type: none"> • conducting research to explore knowledge and establish facts • identifying opportunities to add value • building up a case • communicating it to the target group • realising and servicing it under anticipated constraints

Curriculum Components	Area Specific Examples
1.3.2 Demonstrating the understanding of key issues in a chosen domain, including cultural aspects	<p>(1) Conducting research with a view to exploring knowledge and establishing facts Students should understand:</p> <ul style="list-style-type: none"> - the importance of arriving at conclusions based on established facts when making decisions - how to locate sources for information and conduct analysis employing basic skills such as drawing questionnaires in conducting interviews - the distinction between qualitative and quantitative research and the drawbacks of improper samples or biased data <p>(2) Identifying opportunities to add value Students should understand:</p> <ul style="list-style-type: none"> - the concept and the importance of adding value and the risks involved - the ethics in creating value, including the cultural, ethnic, social and national dimensions - how to sustain value over time <p>(3) Building up a case Students should understand:</p> <ul style="list-style-type: none"> - the importance of maintaining and sustaining resources, whether human, physical or financial, in all environments - the tools to manage financial resources, and the risks involved in making financial decisions - the value of planning for sustainability <p>(4) Communicating to the target group Students should understand:</p> <ul style="list-style-type: none"> - how to communicate with an audience, the success of which depends on the ability to understand them and be able to get messages and ideas across <p>(5) Providing quality services Students should understand:</p> <ul style="list-style-type: none"> - how to meet the needs of customers - the value and sustainability of customer satisfaction

Curriculum Components	Area Specific Examples
1.3.3 Discussing the global and local environment in that particular domain	Students should be able to explain how changes in society, economy, technology, etc may affect the market, consumer behaviour, the operation of businesses, etc
1.3.4 Suggesting and illustrating opportunities for learning, development, etc related to the course	<p>For example, students can be encouraged to:</p> <ul style="list-style-type: none"> - build up a career portfolio in the area of business, management and law - take an inventory of personal strengths and weaknesses by constructing a personal scorecard - explore up to three selected career clusters and up to three pathways within these clusters (in terms of the required aptitudes and abilities) - relate their personal scorecard to these selected career clusters, identifying their roadmap to these career clusters and acquiring the basic knowledge and skills for sustainability in career development - understand the ever-changing requirements of the workplace, the development trends of the field and the relationship of lifelong learning to career development

Integration of foundation skills, thinking skills, people skills, and values and attitudes through application in the career competencies related to Business, Management and Law

Curriculum Components	Area Specific Examples (Optional)
2. Foundation Skills	
2.1 Communication skills (including languages), such as understanding, developing and communicating ideas and information and interacting with others	<ul style="list-style-type: none"> - Communicate in a clear, courteous, concise, complete and concrete way, appropriate to the purpose and the audience, through spoken, written and graphic expression, e.g. <ul style="list-style-type: none"> • communicate in a way that takes account of differences in the background of target audiences • compose business documents that reflect house practices and protocols • research, analyse and prepare oral/written responses in different

Curriculum Components	Area Specific Examples (Optional)
	<p>business situations</p> <ul style="list-style-type: none"> • demonstrate skills in negotiation and compromise, sustaining the commitment to achieving the business goals
2.2 Numeracy skills , such as integrating and applying numerical and spatial concepts and techniques	<ul style="list-style-type: none"> - Apply mathematical knowledge in analysing, interpreting and presenting data collected from different sources for tasks such as market research - Calculate and compare budget, cost, profit/loss by different modes of operation - Analyse statistical data for forecasting
2.3 Information technology skills , such as using and adapting technologies	<ul style="list-style-type: none"> - Employ information and communication technology as a tool to gather and organise information for decision-making and problem-solving - Employ business applications such as accounting software - Use the Internet and other information and communication technology equipment to facilitate projects and presentation to customers
3. Thinking Skills	
3.1 Problem-solving and decision-making skills , such as identifying problems and providing appropriate solutions, taking into consideration social, economic and technological developments	<ul style="list-style-type: none"> - Identify problems, and master data to make informed decisions in a fast-changing business and social environment
3.2 Analytical skills , such as recognising when and what information is needed, locating and obtaining it from a range of sources and evaluating, using and sharing it with others	<ul style="list-style-type: none"> - Review and analyse the effectiveness of different corporate strategies by quantitative and qualitative methods - Compare and contrast the strengths and weaknesses of particular corporate strategies for specific situations

Curriculum Components	Area Specific Examples (Optional)
3.3 Creative thinking skills , such as visualising consequences, thinking laterally, recognising opportunities and potential, testing multiple options, and engaging with the artistic, cultural and intellectual work of others	<ul style="list-style-type: none"> - Generate creative ideas for grasping new business opportunities, such as playing out alternative scenarios of risks and opportunities - Predict future development trends in business and society from data collected and case studies - Consciously adopt other cultural perspectives to challenge assumptions and values
3.4 Understanding interdependency and relationships between different areas of studies, societies and civilisations to form regional/global perspectives on social, economic and technological changes , such as describing patterns, structures and relationships, and making and interpreting predictions	<ul style="list-style-type: none"> - Understand the impact of globalisation on the local business environment and society - Understand how business relates to the wider environment shaped by history, culture, politics and geography, and how changes in these factors can generate consequences for businesses and society
4. People Skills	
4.1 Self-reflection and self-management skills , such as setting schedules of tasks for completion, and reflecting on goals and targets set	<ul style="list-style-type: none"> - Understand the importance of emotional stability and how to manage stress - Understand the roles, responsibilities and interrelationships in the business and legal environment - Set priorities and targets within time frames specific to tasks, projects and contexts - Consider the impact of time and resource constraints in fulfilling work requirements
4.2 Interpersonal skills , such as interacting with other people and cultures and contributing to the community	<ul style="list-style-type: none"> - Use appropriate strategies in dealing with customers - Develop social awareness such as having empathy and sensitivity to the feelings and situations of others, e.g. a customer's needs and expectations - Understand relationship management such as interpreting people's beliefs and feelings, managing change, resolving conflict, cultivating

Curriculum Components	Area Specific Examples (Optional)
	relationships, supporting teamwork and collaboration
4.3 Collaborative and team building skills	<ul style="list-style-type: none"> - Demonstrate the group dynamics which contribute to collaboration, united by common goals - Understand the different roles in team activities, e.g. as a team leader or member
5. Values and Attitudes	
5.1 Honesty and integrity , such as understanding the importance of perseverance and transparency	<ul style="list-style-type: none"> - Understand the role of honesty and integrity in creating trust in business settings and society - Appraise the rules of professional conduct in the business and legal sectors
5.2 Dependability and responsibility , such as being trustworthy and behaving responsibly	<ul style="list-style-type: none"> - Demonstrate dependability by developing and maintaining professional behaviours and positive attitudes - Observe corporate, social and legal responsibilities
5.3 Enthusiasm and motivation to participate actively in life	<ul style="list-style-type: none"> - Be sensitive to business opportunities and demonstrate the drive to come up with product/service solutions - Be aware of global issues affecting local or export markets and be able to develop business strategies in time - Be able to search for market niches on one's own initiatives
5.4 Willingness to learn , such as being self-motivated in learning	<ul style="list-style-type: none"> - Reflect and adapt to overcome the challenges of a fast changing business world and society
5.5 Self-confidence and self-esteem , such as being confident in one's own abilities and potential for personal growth and developing attachment to the culture of a chosen group	<ul style="list-style-type: none"> - Demonstrate positive attitudes and manner in work and social settings - Be self-confident in presenting ideas to colleagues and clients - Develop self-esteem in the process of completing a project

Curriculum Components	Area Specific Examples (Optional)
5.6 Respect for others and for law and authority , such as recognising the right of everybody to feel valued and be safe, and achieving a balance between rights and obligations	<ul style="list-style-type: none"> - Understand the equality of people and of countries - Respect diversity in the workplace when working with customers - Be aware of the effects of personal beliefs and attitudes that influence decision-making - Understand various legal and ethical issues related to business settings, such as corporate governance, copyright, data privacy

Applied Learning
Curriculum Framework

Focus: Services

Applied Learning – Services

Applied Learning courses in Services study the planning and production of outputs which are in the form of services rather than products or goods. The services provided could be broadly categorised by the types of consumers, such as services provided to individuals, to households and communities, and to businesses and institutions. Services may involve the delivery, distribution and sale of goods from producer to consumer as in food and catering services, wholesaling and retailing, or may involve the provision of service, such as child care, social services, hospitality and entertainment. Goods may be transformed in the process of providing service, as happens in food and catering services or in construction services.

What characterises Services is a focus on people interacting with other people, serving the customers and satisfying their needs. Hence it involves building up trust and interpersonal relationships and paying attention to the cultural, economic, environmental, and social factors which condition these relationships. Apart from the knowledge of the trades/industries, most importantly, students learn to be ethical and responsible in providing services.

Understanding the nature and characteristics of the services sector and recognising the importance and implications of services provision are becoming increasingly important for Hong Kong, which is a major provider of tertiary services for the primary and secondary industries of the Pearl River Delta Region.

In the context of Applied Learning, students taking courses in Services come to understand the concepts, values and attitudes underpinning service provision, including the positive effects of service quality, the operational techniques and skills of different types of services, and the needs of the people they serve.

Curriculum Components	Area Specific Examples
1. Career-related Competencies	
1.1 Understanding the context of the course within the wider area of studies	
1.1.1 Cluster of professions/ trades/industries related to the course	<p>Contexts could include but are <u>not</u> limited to:</p> <ul style="list-style-type: none"> - business services, which involve consulting on product development and sales; stock/inventory control; office administration; housekeeping and store management; people management; and information management - hospitality services, which involve planning, managing and providing accommodation and food; recreation, convention, tourism and related support activities - retail and merchandising services, which involve planning and performing wholesale and retail services, marketing and distribution support services, and merchandise/product management and promotion - personal health services, which involve planning, managing and providing diagnostic and therapeutic advice and services
1.1.2 Future global and local outlook	<p>Students learn about the economic growth that service industries have brought about in modern societies and their contribution to gross domestic product and employment. Students:</p> <ul style="list-style-type: none"> - recognise the growing economic importance of the services industry in Hong Kong and worldwide - understand the diversification, specialisation and growth of the services sector both globally and locally - understand the challenges to the services industry in situations where economic development has pushed up the education levels and living standards of people, resulting in escalating and more complex demands as personal

Curriculum Components	Area Specific Examples
	<p>income grows, and in greater competition as tertiary services dominate the economy</p> <ul style="list-style-type: none"> - understand the need for development in services to meet rapidly changing consumer expectations and lifestyles, the effect of new technologies on personal and health care services, and the strategies which cross the boundaries of race and culture to extend the customer base
<p>1.1.3 Beginners' skill set to facilitate entry to further studies and/or work</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> - understand citizenship within a democratic society, and the ethical behaviours valued by public and community services - understand the ethical dilemmas and responsibilities involved in the provision of services, e.g. striking a balance between social responsibility, customers' rights and company benefits - understand and observe the ethical principles and underlying values involved in the provision of services, such as observing the confidentiality of customer information - acquire the terminology and professional language unique to different service operations - develop effective techniques for selling services - develop the personal attributes essential to the services industry, such as communicating effectively in written, verbal and non-verbal forms and the ability to interact with people of diverse backgrounds - acquire a range of technical knowledge and skills in services, such as managing the front office, housekeeping, and food and beverage services - fine-tune their relationship skills to cooperate successfully with peers within a team, and perform different service operations, e.g. operating a beauty salon that provides personal care services

Curriculum Components	Area Specific Examples
	<ul style="list-style-type: none"> - understand the importance of information management systems and apply equipment and software appropriately to manage services and customers
<p>1.1.4 Foundation knowledge developed in basic education and Secondary 4</p>	<p>Building upon the foundation acquired in:</p> <ul style="list-style-type: none"> - Chinese Language/English Language Education, such as employing different forms and styles of written communication for target groups - Mathematics Education such as number and algebra, measures, and data handling - Technology Education, such as information technology knowledge and skills, consumer education, and food studies - Personal, Social and Humanities Education, such as the economic concepts of production and consumption, and the historical and cultural characteristics of different geographical regions
<p>1.1.5 Possible further study and career pathways</p>	<p>business services</p> <ul style="list-style-type: none"> - further studies in accounting, marketing, human resources, logistics, and knowledge management solutions - career development: business administrator, executive officer providing logistics and administration support <p>hospitality services</p> <ul style="list-style-type: none"> - further studies in leisure and tourism, hotel management, food production and services, personal and beauty care - career opportunities in hotels, theme parks, club houses, cruise tours, airlines, and catering <p>retail and merchandising services</p> <ul style="list-style-type: none"> - further studies in sales and customer services, advertising and marketing, outlet management - career development in sourcing and procuring raw materials, semi-products and consumable goods, working as a buyer or merchandiser, or store manager

Curriculum Components	Area Specific Examples
	<p>in chain and franchise operations</p> <p>public health services</p> <ul style="list-style-type: none"> - further studies in environmental hygiene and safety, health care services, community services, or social care for children, elderly and youth - career development in health care profession, social work, or public administration
<p>1.1.6 Relations with core subjects and other elective subjects</p>	<p>enhancing and enriching, e.g.</p> <ul style="list-style-type: none"> - students calculate the costs of food production, price products/services, or forecast sales from point-of-sale data to augment the data tools acquired in Mathematics Education - students use professional services software, e.g. for the scheduling of human resources, costing, inventory control and forecasting, which enhances their information technology knowledge acquired in Technology Education - students enrich their language and communication skills developed in Chinese Language/English Language Education, through preparing written communications with clients, or through advertising, sales reports and market research findings <p>cross-fertilisation, e.g.</p> <ul style="list-style-type: none"> - the analysis of cultural, social, economic and demographic profiles of customers in Applied Learning draws on concepts learned in Personal, Social and Humanities Education - students apply the code of ethics learned in Liberal Studies to service provision - Science Education students recognise how environmental factors can generate ideas for new services such as in the waste management industry - students apply their knowledge of chemistry to handling hazardous materials in housekeeping operations; or apply knowledge of biology in safe food

Curriculum Components	Area Specific Examples
	<p>preparation and hygienic personal care services</p> <p>expanding horizons, e.g.</p> <ul style="list-style-type: none"> - Applied Learning courses provide students with direct contact with professionals in services industries, and offer a variety of different learning experiences <p>consolidating and synergising students' studies, e.g.</p> <ul style="list-style-type: none"> - Students undertake an in-depth study into a topic/domain of their own choice, which is not limited to the area or any area(s) of Applied Learning, where they have the opportunities to draw upon and integrate the knowledge and skills acquired and developed in their prior learning
1.1.7 Relations with other areas of studies/courses of Applied Learning	<p>Applied Learning courses in Services can be enriched by the knowledge and skills from other areas, and vice versa. For instance,</p> <ul style="list-style-type: none"> - Business, Management and Law, such as applying principles of administration in operating a hotel front office; human resource management in sales; marketing and advertising new services or products; accounting and financial control in retail management - Media and Communication, such as the ethics involved in handling customers' personal data; and communicating in different forms to different target audiences

Curriculum Components	Area Specific Examples
1.2 Understanding and interpreting workplace requirements through practising the basic skills in an authentic or near authentic environment	
1.2.1 Practice learning within at least one representative domain related to the course	<p>Students are given hands-on experiences in an authentic or near authentic environment to explore at least one activity, product or service in depth. For example,</p> <ul style="list-style-type: none"> - in personal health and care courses, students communicate effectively to understand clients' needs, apply safe work practices, perform routine housekeeping duties to keep the workplace in order, and operate professional equipment appropriately - students also select specific areas, such as beauty care, in which they develop their insight into the industry and transfer skills learned elsewhere
1.2.2 Experiencing workplace requirements through practice	<ul style="list-style-type: none"> - Students distinguish the nature and purpose of commercial services from non-commercial, public and community services - Students apply their knowledge of safety and health hazards to different types of services
1.2.3 Acquiring the knowledge and skills essential to enable further learning within the area	<p>Students should be able to:</p> <ul style="list-style-type: none"> - realise the importance of satisfying customers' demand for service value and quality, and in specific circumstances meet those needs - communicate in written and oral formats effectively when promoting and providing services for different target groups - analyse consumer backgrounds, perceptions and preferred choices - research people and markets to develop new services
1.2.4 Transferring learning to unfamiliar situations within related domains	<p>Students should be able to:</p> <ul style="list-style-type: none"> - explore consumer choice and explain the relationships among variables affecting those choices - relate such knowledge to other contexts (e.g. explain the success factors in selling personal products and services, and transfer their knowledge of probabilistic distribution to marketing

Curriculum Components	Area Specific Examples
	<p>financial products)</p> <ul style="list-style-type: none"> - discuss personal actions in acquiring, using and discarding services to satisfy needs, and relate them to economic theories (e.g. how people prioritise their spending)
1.3 Developing and applying conceptual, practical and reflective skills to demonstrate innovation and entrepreneurship	
<p>Through elective studies, case studies, project, etc, some students, with the support of tutors, may be able to demonstrate their learning beyond the level of information, knowledge and skill development to the level of conceptualising and meta-understanding, by drawing upon and integrating their learning across the curriculum and applying it to solve daily problems.</p> <p>For example, students can apply the knowledge and skills related to communication in services to manage their social life and networks. In the process, students:</p> <ul style="list-style-type: none"> • employ relationship skills in services to make new acquaintances, and to communicate trust and respect to other people in words and actions • learn to build up their knowledge of current issues to maintain a good dialogue and communicate with other people • apply good communication techniques to maintain harmonious social relationship with others, e.g. learn to listen without jumping to conclusions too quickly, learn to appreciate and respect opposing views 	
1.3.1 Transferring learning to new environments	<p>Students should be able to:</p> <ul style="list-style-type: none"> - apply their concepts about a fully integrated hospitality service to supply chain management. They could demonstrate speed, agility and flexibility in activities related to both hospitality services and supply chain management in business - apply their selling techniques developed in retailing to trade negotiations in international business
1.3.2 Demonstrating the understanding of key issues in a chosen domain, including cultural aspects	<p>Students should be able to:</p> <ul style="list-style-type: none"> - assess the long-term impact of the product or the materials on the environment, e.g. hospitality students consider factors that support sustainable tourism; - accommodate cultural and social diversity when planning and developing

Curriculum Components	Area Specific Examples
	<p>services for different target groups, e.g. in providing social support for people with different religious or cultural backgrounds</p> <ul style="list-style-type: none"> - evaluate emerging issues, e.g. those related to over-consumption in affluent lifestyles, using knowledge of food science and preparation to provide healthy food choice and avoid wastage
1.3.3 Discussing the global and local environment in that particular domain	<p>Students should be able to:</p> <ul style="list-style-type: none"> - explain how the evolution and sustainability of services are affected by different cultural, economic, technological and societal changes in a community, e.g. how people's expectations of quality health care are highly related to economic and social development; or the dependence of the entertainment business within a city on its cultural characteristics and background - evaluate the importance of developing quality in service provision
1.3.4 Suggesting and illustrating opportunities for learning, development, etc related to the course	<p>For example, students can be encouraged to:</p> <ul style="list-style-type: none"> - explore their aptitude for further studies by developing their competency at different levels, e.g. proceeding to supervision and service management from an initial understanding of services operations - see the relationships between academic success and work, and relate the success factors to their personal development - explore up to three selected career clusters and the aptitudes and abilities required in up to three pathways within these clusters, and develop a personal plan to articulate to different levels of qualifications

Integration of foundation skills, thinking skills, people skills, and values and attitudes through application in the career competencies related to Services

Curriculum Components	Area Specific Examples (Optional)
2. Foundation Skills	
2.1 Communication skills (including languages), such as understanding, developing and communicating ideas and information and interacting with others	Develop and employ: <ul style="list-style-type: none"> - effective communication skills in listening, questioning and non-verbal communication - effective writing skills suited to the service industry involved, e.g. writing personal health reports or sales reports - different types of communication media in selling services - empathetic interpersonal skills in interpreting, evaluating and responding to the requests of customers, including understanding what interferes with effective communication
2.2 Numeracy skills , such as integrating and applying numerical and spatial concepts and techniques	Apply their knowledge of mathematics to: <ul style="list-style-type: none"> - understand quantitative models that predict consumer responses to a sale or promotion policy - calculate an inventory turnover rate - determine the standard yields in food production in a hotel operation
2.3 Information technology skills , such as using and adapting technologies	Apply information technology skills to: <ul style="list-style-type: none"> - use an industry specific information technology system to manage hazards, or identify control points in production - control fixed and variable labour in services operations - compile a guest/customer profile using appropriate management software
3. Thinking Skills	
3.1 Problem-solving and decision-making skills , such as identifying problems and providing appropriate solutions, taking into consideration social, economic and technological developments	<ul style="list-style-type: none"> - Use technology and information sources to evaluate the objective and quality of the services provided - Integrate aesthetic and functional quality e.g. when designing different hospitality events such as a banquet or business convention - Recognise and meet the service requirements of people from different cultural, social and economic backgrounds when providing personal health services

Curriculum Components	Area Specific Examples (Optional)
3.2 Analytical skills , such as recognising when and what information is needed, locating and obtaining it from a range of sources and evaluating, using and sharing it with others	<ul style="list-style-type: none"> - Collect background information and analyse data on the type and range of services performed in other cities or countries - Analyse sales trends to estimate the replenishment rate for goods - Understand the role of sales forecasting in marketing and apply forecasting methods such as base adjusting and moving average
3.3 Creative thinking skills , such as visualising consequences, thinking laterally, recognising opportunities and potential, testing multiple options, and engaging with the artistic, cultural and intellectual work of others	<ul style="list-style-type: none"> - Understand how a service control plan can help management carry out daily business functions - Cite the potential advantages and disadvantages in automating service provision - Explore opportunities for expanding a customer base
3.4 Understanding interdependency and relationships between different areas of studies, societies and civilisations to form regional/global perspectives on social, economic and technological changes , such as describing patterns, structures and relationships, and making and interpreting predictions	<ul style="list-style-type: none"> - Analyse the demographic patterns of customers - Analyse the economic background of consumers of particular transport services in different cities/countries - Relate the price of services with data generated from sales, e.g. use point-of-sale reports to maximise price and profits
4. People Skills	
4.1 Self-reflection and self-management skills , such as setting schedules of tasks for completion, and reflecting on goals and targets set	<ul style="list-style-type: none"> - Set out a team schedule for performing tasks, e.g. in front desk, room service or food serving operation in a hotel restaurant - Identify and manage the resources involved in, e.g. planning a successful business convention, or designing a personal care programme to meet a specific client's needs
4.2 Interpersonal skills , such as interacting with other people and cultures and contributing to the community	<ul style="list-style-type: none"> - Adopt communication approaches that are effective with people of diverse cultures - Deal effectively with conflicting

Curriculum Components	Area Specific Examples (Optional)
	<p>situations and misunderstandings when interacting with customers and team members</p> <ul style="list-style-type: none"> - Create a positive, relaxed and pleasant atmosphere when providing services
4.3 Collaborative and team building skills	<ul style="list-style-type: none"> - Demonstrate team spirit and principles in project work, in research exercises and in coaching peers
5. Values and Attitudes	
5.1 Honesty and integrity , such as understanding the importance of perseverance and transparency	<ul style="list-style-type: none"> - Behave ethically when providing services and managing customer information and relationships
5.2 Dependability and responsibility , such as being trustworthy and behaving responsibly	<ul style="list-style-type: none"> - Provide safe and healthy services, with attention to after-sales services
5.3 Enthusiasm and motivation to participate actively in life	<ul style="list-style-type: none"> - Develop services that exceed the expectations of customers - Research historical and new situations or circumstances that can lead to new service lines, or modern adaptations of old services to meet changing customer requirements
5.4 Willingness to learn , such as being self-motivated in learning	<ul style="list-style-type: none"> - Compare the personal skills, knowledge and attributes required in a service industry with their own skills, knowledge and attributes, and plan to rectify any identified gaps and weaknesses
5.5 Self-confidence and self-esteem , such as being confident in one's own abilities and potential for personal growth and developing attachment to the culture of a chosen group	<ul style="list-style-type: none"> - Develop and sustain the professional image and personal attributes that are required for specific services industries - Look for opportunities to extend their experiences and skill sets
5.6 Respect for others and for law and authority , such as recognising the right of everybody to feel valued and be safe, and achieving a balance between rights and obligations	<ul style="list-style-type: none"> - Understand the legal responsibilities of a service provider and translate the responsibilities into policies and practices that promote quality

Applied Learning
Curriculum Framework

Focus: Applied Science

Applied Learning – Applied Science

Applied Science involves the application of knowledge and skills from one or more natural scientific fields to solve practical problems. Applied Learning courses in Applied Science provide students with opportunities to explore and develop their interests in science in workplace settings and in their daily life, and broaden their understanding of how science can be used to serve the well-being of the world.

In the context of Applied Learning, students studying courses in Applied Science understand how science can be used in a variety of occupational areas. They can apply scientific knowledge and the skills of scientific investigation to explain phenomena and observations, construct solutions to problems, and make decisions and judgements about a range of issues. Students also learn to be ethical and responsible in the use of science, and can develop their cognitive skills for further studies in a science-related discipline, and for employment or further training in science-related industries and professions.

Curriculum Components	Area Specific Examples
1. Career-related Competencies	
1.1 Understanding the context of the course within the wider area of studies	
1.1.1 Cluster of professions/ trades/industries related to the course	<p>Contexts could include but are <u>not</u> limited to:</p> <ul style="list-style-type: none"> - medical science (including Western and Chinese Medicine), where students learn about the structure and functions of the human body, basic principles of medical philosophy, causes of illnesses and potential illnesses, the nature and properties of medicines, basic principles of diagnosis, etc - health care, where students learn about the health care system, the interplay of biological, psychological, social, ecological and economic factors that contribute to health and illness, the roles and responsibilities of the multi-disciplinary health care team, and basic knowledge and skills in nursing care, etc - sports, where students apply scientific principles and techniques to improve their understanding of sports performance, covering areas such as human movement, fitness testing and assessment, exercise science and prescriptions, nutrition, human anatomy and physiology, coaching methods - environmental science, where students learn about the interactions among physical, chemical, and biological components of the environment, covering areas such as climate change, conservation, biodiversity, use of natural resources, waste management, sustainable development, pollution, heritage protection - astronomy and space science, where students learn about the observational features of the night sky, the structure,

Curriculum Components	Area Specific Examples
	<p>formation and development of the universe, covering areas such as the evolution of the sun and other stars, planets, galaxies, motions and gravity, black holes</p> <ul style="list-style-type: none"> - psychology, where students learn to apply psychological theories in explaining human mental process and behaviour, covering areas such as research methods in psychology, various approaches and fields of psychology, memory, learning, personality, emotions, intelligence
1.1.2 Future global and local outlook	<ul style="list-style-type: none"> - Scientific knowledge and inquiry are essential for personal and career development in modern society - Students learn to: <ul style="list-style-type: none"> • be aware of the use of science in a wide range of professions and occupations, either explicitly (e.g. doctors, nurses, laboratory technicians) or implicitly (e.g. information technology technicians, engineers, chefs, photographers, drivers) • be aware of how scientific development leads to significant changes in our daily life and lifestyle (e.g. mobile technologies, fibre technologies, medical technologies) and the impact of economic, technological and social development on applied science (e.g. how <i>economic development</i> affects the environment and the natural systems; how <i>technological development</i> leads to breakthroughs in sports science; how <i>social development</i> affects the health and lifestyle of humans; and how various <i>interwoven</i> factors affect industries using applied science) • recognise, from global and local developmental trends in the area, the further studies and career

Curriculum Components	Area Specific Examples
	<p>opportunities available, and make informed decisions regarding future academic studies and occupational goals</p>
<p>1.1.3 Beginners' skill set to facilitate entry to further studies and/or work</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> - understand the nature of science and the process of scientific inquiry - how scientific ideas are discovered, developed, tested and communicated - identify how scientific knowledge and skills are applied in a wide range of essential functions in various industries, trades and professions - demonstrate the application of scientific knowledge and skills in a range of work-related contexts and follow appropriate procedures, taking health and safety issues into account - be aware of the social, legal and ethical responsibilities related to the application of science, and how science can be used to improve the well-being of humankind and the environment - understand and explore careers in Applied Science
<p>1.1.4 Foundation knowledge developed in basic education and Secondary 4</p>	<p>Built upon the foundation acquired in:</p> <ul style="list-style-type: none"> - Science Education, for instance, fundamental scientific concepts, experimental and laboratory techniques, as well as skills in using scientific instruments and equipment acquired in Physics, Chemistry and Biology lay the foundation for further studies in environmental science, astronomy and space science, medical science, sports science, health care, psychology, etc - Technology Education, for instance, concepts introduced in the Health Management and Social Care curriculum (e.g. the health care system, issues of health and illness) and Biology (e.g. genetics and evolution, organisms and environment) provide essential knowledge for medical science. The Technology and Living curriculum (e.g. nutrition) can also be applied in the study

Curriculum Components	Area Specific Examples
	<p>of sports science and health care</p> <ul style="list-style-type: none"> - Physical Education, for instance, body movement, nutrition and diet, and the role and social values of physical activities lay the foundation for the study of sports coaching and management - Chinese Language/English Language Education, for instance, reading, writing, listening and speaking skills are used to acquire, apply and communicate knowledge - Mathematics Education, for instance, the use of numbers and algebra, statistics, data handling and analysis are essential in scientific investigations
1.1.5 Possible further study and career pathways	<p>medical science</p> <ul style="list-style-type: none"> - post-secondary courses in medicine and surgery, Chinese medicine, dentistry, pharmacy, biotechnology - career development: doctor, Chinese medicine practitioner, dentist, pharmacist, researcher <p>health care</p> <ul style="list-style-type: none"> - post-secondary courses in nursing, food and nutritional science, physiotherapy, medical laboratory science - career development: nurse, nutritionist, physiotherapist, laboratory technician, health care assistant <p>sports</p> <ul style="list-style-type: none"> - post-secondary courses in physical education and sports science, sports coaching, recreation management - career development: physical education teacher, sports coach, fitness instructor, sports administrator <p>environmental science</p> <ul style="list-style-type: none"> - post-secondary courses in earth sciences, environmental protection, ecology and biodiversity - career development: urban planner, geologist, environmental consultant, environmental engineer

Curriculum Components	Area Specific Examples
	<p><i>astronomy and space science</i></p> <ul style="list-style-type: none"> - post-secondary courses in astronomy, applied physics - career development: professional astronomer, practitioner in museums or weather services <p><i>psychology</i></p> <ul style="list-style-type: none"> - post-secondary courses in social sciences, psychology, cognitive science, education - career development: clinical psychologist, educational psychologist, researcher
1.1.6 Relations with core subjects and other elective subjects	<p><i>enhancing and enriching</i>, e.g.</p> <ul style="list-style-type: none"> - in-depth studies in astronomy and space science enhance the study of mass and weight, gravitation, force and motion, etc covered in Physics; practical experience in Applied Learning courses in health care enriches the study of Health Management and Social Care <p><i>cross-fertilisation</i>, e.g.</p> <ul style="list-style-type: none"> - application of concepts such as health and diseases from Biology in the study of medical science consolidates and reinforces the learning of both subjects. Applied Learning courses also provide work-related learning contexts to serve as a platform for conducting scientific investigations required in Science Education <p><i>expanding horizons</i>, e.g.</p> <ul style="list-style-type: none"> - students specialising in humanities may broaden their horizons, explore their aptitudes and enhance their all-round development through enrolling in Applied Learning courses in Applied Science <p><i>consolidating and synergising students' studies</i>, e.g.</p> <ul style="list-style-type: none"> - students undertake an in-depth study into a topic/domain of their own choice, which

Curriculum Components	Area Specific Examples
	<p>is not limited to the area or any area(s) of Applied Learning, where they have the opportunities to draw upon and integrate the knowledge and skills acquired and developed in their prior learning</p>
<p>1.1.7 Relations with other areas of studies/courses of Applied Learning</p>	<p>Applied Learning courses in Applied Science can be enriched by the knowledge and skills from other areas, and vice versa. For instance,</p> <ul style="list-style-type: none"> - Engineering and Production - scientific knowledge can be applied to the development of new technologies in the engineering industry and production of goods and services; whereas innovations in machines, equipment and products benefit scientific investigations - Business, Management and Law - various business organisations and industries use science in research and development; whereas the concepts of finance, accounting and management are necessary in running businesses related to the applications of science, e.g. clinics, sports clubs - Creative Studies - concepts in environmental science can be applied in the design of products and art works; creativity and openness to new ideas cultivated in design and performing arts are essential attributes in the process of scientific inquiry
<p>1.2 Understanding and interpreting workplace requirements through practising the basic skills in an authentic or near authentic environment</p>	
<p>1.2.1 Practice learning within at least one representative domain related to the course</p>	<p>Students are given hands-on experiences in an authentic or near authentic environment to explore at least one activity, product or service in depth. For example,</p> <ul style="list-style-type: none"> - in the study of health care, after acquiring a general understanding of the health care system and health issues, students may choose to further investigate nursing care for the elderly or persons with physical disabilities - in the study of sports, after acquiring a general understanding of the various

Curriculum Components	Area Specific Examples
	<p>components of the sports industry (such as sports science, sports coaching, sports management), students may choose to explore fitness training, or basketball coaching, etc</p> <ul style="list-style-type: none"> - in the study of environmental science, after acquiring an overview of various environmental issues, students may explore managing and remedying air or water pollution, or focus on the human dimension of global environmental change, etc
1.2.2 Experiencing workplace requirements through practice	<p>Students should be able to:</p> <ul style="list-style-type: none"> - discuss the roles, requirements and academic/professional qualifications of practitioners in an occupational area (e.g. sports nutritionist vs clinical nutritionist; educational psychologist vs clinical psychologist), and identify the types of scientific activity that are carried out by them (e.g. sports coaching requires knowledge of sports psychology, sports science and coach ethics, etc before formulating a training plan for athletes). Students should also be able to identify the career progression ladder in the related field (e.g. sports coaches can acquire coaching accreditations at the local and international level) - develop the awareness and scientific understanding of safety precautions and procedures in various work contexts (e.g. measures to prevent sports injuries, and the safe and proper use of medicine and medical equipment)
1.2.3 Acquiring the knowledge and skills essential to enable further learning within the area	<p>Students should be able to:</p> <ul style="list-style-type: none"> - acquire knowledge and skills in scientific inquiry (including making observations, forming hypotheses, making predictions, gathering information, interpreting and analysing empirical data, drawing conclusions, modifying or refuting scientific theories, and identifying unresolved questions). They should also understand how scientific inquiry

Curriculum Components	Area Specific Examples
	<p>can solve practical problems related to a specific occupational context</p> <ul style="list-style-type: none"> - work on portfolios/projects on a chosen domain related to the course, and apply the processes of scientific inquiry, for instance, <ul style="list-style-type: none"> • in devising a training plan for athletes, factors such as fitness levels, trainee psychology, nutrition have to be identified, followed by the modification of the training programme. Testing then involves collecting empirical evidence on the factors contributing to the trainees' success or lack of it • in environmental science, students can work on a project to gather water samples, calculate and analyse data related to water pollutants, identify types and sources of water contamination and draw conclusions
1.2.4 Transferring learning to unfamiliar situations within related domains	<p>Students should be able to:</p> <ul style="list-style-type: none"> - inquire, explore and scientifically explain natural and technological phenomena in their daily lives, and transfer such knowledge to unfamiliar situations (e.g. explain the causes and treatment of an illness, using knowledge acquired in nursing care and medical science, and transfer such knowledge to the choice of personal health care services and products) - transfer researching, critical thinking and reflection skills acquired in scientific investigations (e.g. the skills of investigating water pollution can be applied to air pollution and solid waste)

Curriculum Components	Area Specific Examples
1.3 Developing and applying conceptual, practical and reflective skills to demonstrate innovation and entrepreneurship	<p>Through elective studies, case studies, project, etc, some students, with the support of tutors, may be able to demonstrate their learning beyond the level of information, knowledge and skill development to the level of conceptualising and meta-understanding, by drawing upon and integrating their learning across the curriculum and applying it to solve daily problems.</p> <p>For example, students can apply the knowledge and skills of scientific enquiry to organising extra-curricular activities in school. In the process, students:</p> <ul style="list-style-type: none"> • identify the interests of their schoolmates (e.g. through observation and/or the collection of data through surveys) • identify the types of activities to be organised • design the activity in accordance with the needs of the participants • identify the constraints in time and resources, explore possible strategies for the implementation of the activity and managing risks, etc and learn to work with others collaboratively • understand the different complementary roles played by team members, and respect the opinions and values of others
1.3.1 Transferring learning to new environments	<p>Students should be able to:</p> <ul style="list-style-type: none"> - transfer the skills of scientific enquiry, including researching, planning, analysis and evaluation to new environments (e.g. from investigations of various sources of environmental pollution to the factors affecting health and sports performance) - explore new concepts in a particular occupational area (e.g. in environmental science, students explore new ways to conserve limited resources and build a more productive and ecologically sustainable environment)
1.3.2 Demonstrating the understanding of key issues in a chosen domain, including cultural aspects	<p>Students should be able to:</p> <ul style="list-style-type: none"> - identify and describe current issues and trends in the various disciplines of Applied Science and how advances in science and technology have affected them - discuss how the issues of cultural difference are reflected in different interpretations of the same fact, for instance,

Curriculum Components	Area Specific Examples
	<ul style="list-style-type: none"> • students should recognise differences in the culture, philosophy and application of Western and Chinese medicine in diagnosing and curing the same illness • students should understand how cultural and individual differences relate to wellness and quality of life, and how these differences are reflected in society - demonstrate key scientific knowledge and concepts in a specific domain to make sense of the world, for instance, <ul style="list-style-type: none"> • use medical science to explain the spread of diseases • use environmental science to explain climate change
1.3.3 Discussing the global and local environment in that particular domain	<p>Students should be able to:</p> <ul style="list-style-type: none"> - articulate how personal beliefs, cultural tradition, technological advances, and current social, economic and political contexts influence the development of industries applying science (e.g. in health care, students learn the various factors affecting health care services in a society, including lifestyles, government policies, economics) - appreciate and evaluate the social, economic and environmental impact that science has on society
1.3.4 Suggesting and illustrating opportunities for learning, development, etc related to the course	<p>For example, students can be encouraged to:</p> <ul style="list-style-type: none"> - explore further study opportunities available and build up a career portfolio in a specific cluster in the area of Applied Science - identify personal traits required for further studies and employment in related clusters, and identify the weaknesses they need to address - explore the aptitudes and abilities needed in up to three selected career clusters and up to three pathways within these clusters, and identify a personal roadmap to these careers - understand the ever-changing requirements of the workplace, the

Curriculum Components	Area Specific Examples
	development trends of the field and the relationship of lifelong learning to career development

Integration of foundation skills, thinking skills, people skills, and values and attitudes through application in the career competencies related to Applied Science

Curriculum Components	Area Specific Examples (Optional)
2. Foundation Skills	
2.1 Communication skills (including languages), such as understanding, developing and communicating ideas and information and interacting with others	<ul style="list-style-type: none"> - Demonstrate the use of appropriate language, including spoken, written, diagrammatic and symbolic forms, in communicating and understanding scientific concepts - Present ideas and information to different audiences for a range of purposes (e.g. preparation of laboratory reports and presentation of experimental findings to classmates) - Master the technical language and jargon commonly used in the profession to support effective communication and interaction (e.g. use of medical terminology in the study of Chinese Medicine)
2.2 Numeracy skills , such as integrating and applying numerical and spatial concepts and techniques	<ul style="list-style-type: none"> - Recognise the importance of accurate calculations in scientific investigations - Calculate mathematical problems and measurements with an appropriate degree of accuracy (e.g. calculation of the cost and nutritional value of a meal in the study of nutrition; measurement and conversion of common weights, temperatures, time, etc. in the study of health care) - Use statistics, diagrams, charts to present findings (e.g. analyse statistics on disease and death in the study of medical science, report research data on sports performance) - Interpret and analyse data in terms of scientific principles and concepts

Curriculum Components	Area Specific Examples (Optional)
2.3 Information technology skills , such as using and adapting technologies	<ul style="list-style-type: none"> - Develop awareness of the use and importance of information technology in scientific work (e.g. the use of computers and specialised equipment in fitness testing and designing sports training programmes) - Make use of information technology for searching information/data from various sources, as well as presenting ideas
3. Thinking Skills	
3.1 Problem-solving and decision-making skills , such as identifying problems and providing appropriate solutions, taking into consideration social, economic and technological developments	<ul style="list-style-type: none"> - Apply scientific ideas and techniques in planning, conducting and evaluating investigative work to solve problems in a work-related context - Distinguish between scientific facts and opinion, and make informed and responsible decisions, taking into consideration health, safety and ethical issues - Develop a global perspective on future social, economic and technological changes
3.2 Analytical skills , such as recognising when and what information is needed, locating and obtaining it from a range of sources and evaluating, using and sharing it with others	<ul style="list-style-type: none"> - Describe, explain, interpret and evaluate quantitative and qualitative data in scientific work - Select, organise, and clearly and logically present information from primary or secondary sources, and share the information with others - Cultivate an inquisitive, reflective and critical mind, openly evaluate different viewpoints, arguments and values on scientific issues, and use scientific theories and logic to support arguments
3.3 Creative thinking skills , such as visualising consequences, thinking laterally, recognising opportunities and potential, testing multiple options, and engaging with the artistic, cultural and intellectual work of others	<ul style="list-style-type: none"> - Apply scientific knowledge innovatively to solve problems, and suggest creative approaches to test the proposed solutions - Be imaginative, curious and creative in the process of scientific investigation

Curriculum Components	Area Specific Examples (Optional)
3.4 Understanding interdependency and relationships between different areas of studies, societies and civilisations to form regional/global perspectives on social, economic and technological changes, such as describing patterns, structures and relationships, and making and interpreting predictions	<ul style="list-style-type: none"> - Be aware of interdependencies, such as the interactions between living organisms and their physical environment that are necessary for maintaining a balance. For instance, <ul style="list-style-type: none"> • students studying a course in sports coaching should recognise the interrelations between performance and health, diet and the environment • similarly, in the study of Chinese Medicine, students should recognise how the natural environment interacts with the human body - Understand the interrelationships between science, technology and society, and how science influences social, cultural and political worlds - Recognise how the pooling of knowledge and understanding from different cultures has enriched the world, e.g. how Chinese and Western Medicine complement each other
4. People Skills	
4.1 Self-reflection and self-management skills, such as setting schedules of tasks for completion, and reflecting on goals and targets set	<ul style="list-style-type: none"> - Set priorities, goals and targets within time frames specific to the tasks - Plan and carry out investigations, using safe and appropriate strategies, taking into consideration time and resource constraints - Understand one's own emotions and values and how to control or redirect them to achieve positive ends
4.2 Interpersonal skills, such as interacting with other people and cultures and contributing to the community	<ul style="list-style-type: none"> - Respect different points of view and beliefs on scientific issues - Appreciate the cultural diversity of people who have contributed to developments in the sciences - Recognise the importance of courtesy and respect in interacting with other people in schools, communities and workplaces, e.g. in the communication that happens between health care professionals and patients, sports coaches and athletes

Curriculum Components	Area Specific Examples (Optional)
4.3 Collaborative and team building skills	<ul style="list-style-type: none"> - Understand the different roles in team activities, e.g. as a team leader or member - Research cooperatively with others and share ideas and information - Discuss issues, problems and conflicts with team members and ways of dealing with these through mediation, negotiation and conciliation - Seek opinions and values from others
5. Values and Attitudes	
5.1 Honesty and integrity , such as understanding the importance of perseverance and transparency	<ul style="list-style-type: none"> - Value intellectual honesty in the process of scientific investigation - Identify responsibilities for maintaining professional conduct and ethical standards (e.g. being aware of the improper use of drugs in sports, maintaining confidentiality of information and patients' rights, and recognising the importance of ethical sources of information)
5.2 Dependability and responsibility , such as being trustworthy and behaving responsibly	<ul style="list-style-type: none"> - Make responsible decisions in using science in homes, schools, and the community - Show concern for the health and safety of oneself and others as well as the environment
5.3 Enthusiasm and motivation to participate actively in life	<ul style="list-style-type: none"> - Develop the concern, curiosity, and sensitivity to understand inherent factors, e.g. be aware of the geographical and historical contexts for the development of science - Be self-motivated in exploration and investigation of phenomena
5.4 Willingness to learn , such as being self-motivated in learning	<ul style="list-style-type: none"> - Be a reflective lifelong learner, willing to admit mistakes and make improvements - Demonstrate openness to new ideas - Be self-directed and take responsibility for one's own learning

Curriculum Components	Area Specific Examples (Optional)
<p>5.5 Self-confidence and self-esteem, such as being confident in one's own abilities and potential for personal growth and developing attachment to the culture of a chosen group</p>	<ul style="list-style-type: none"> - Demonstrate a positive attitude and manner in work - Confidently tackle tasks and problems, both individually and collaboratively - Apply scientific knowledge to daily life and promote a healthy lifestyle, e.g. courses in sports science and medical science provide students with the scientific knowledge and understandings of personal health issues
<p>5.6 Respect for others and for law and authority, such as recognising the right of everybody to feel valued and be safe, and achieving a balance between rights and obligations</p>	<ul style="list-style-type: none"> - Discuss legal issues related to the industry (e.g. the legal consequences of the various types of pollution) - Understand the nature of science-based work and the impact (both positive and negative) on the people and the environment brought about by science - Appreciate the contribution of scientific research to social justice (e.g. forensic science) - Discuss occupational safety issues (e.g. the obligation to conduct scientific investigations in a safe environment)

Applied Learning Curriculum Framework

Focus: Engineering and Production

Applied Learning – Engineering and Production

Engineering is the application of scientific principles towards practical ends. This is accomplished through knowledge, mathematical principles, and experience applied to the development of constructs and processes. A typical engineering process may include research, design, installation, testing, commissioning, maintenance, and problem-solving of constructs, systems and processes.

Production is the process that commercially realises viable products or services. It involves designing, planning, installing and controlling the basic factors of production – people, materials, information, and energy – and achieving economies and efficiencies to meet the market's needs. This is achieved through supporting systems such as automation, supply chain dynamics, quality assurance and inventory control.

In the context of Applied Learning, Engineering and Production courses provide the learning context for students to understand the multi-disciplinary nature of the transfer of scientific knowledge and research findings to products that are socially, ecologically and economically valuable, and to recognise the importance of professional ethics and responsibilities.

Curriculum Components	Area Specific Examples
1. Career-related Competencies	
1.1 Understanding the context of the course within the wider area of studies	
1.1.1 Cluster of professions/ trades/industries related to the course	<p>Contexts could include but are <u>not</u> limited to the following disciplines: biomedical, building, building services, chemical, civil, control, automation, communications, computer, electrical, electronics, environmental, fire, gas, geotechnical, information, logistics manufacturing and industrial, marine and naval architecture, materials, mechanical, and structural.</p> <p>Three major traditional engineering fields are civil, electrical, and mechanical engineering. Additional engineering disciplines are developed over time to meet modern development needs. Applications of an engineering discipline may span across many trades and industries.</p> <p>Some disciplines are shown below as examples:</p> <ul style="list-style-type: none"> - building services engineering focuses on building services equipment and systems such as air-conditioning, fire engineering, drainage, and power distribution - civil engineering focuses on structure, building, and soil mechanics related to works such as buildings, bridges, roads, and dams - electrical engineering focuses on power systems, control systems, and electronic devices - environmental engineering focuses on achieving a sustainable environment, developing renewable energy technologies and enhancing air and water quality - information engineering focuses on the principles, technologies, services, and applications of computer hardware and software systems

Curriculum Components	Area Specific Examples
	<ul style="list-style-type: none"> - manufacturing and industrial engineering focuses on the design and development of integrated systems for large-scale production - mechanical engineering focuses on the application of principles of physics for analysis, design, manufacturing, and maintenance of mechanical systems
1.1.2 Future global and local outlook	<ul style="list-style-type: none"> - Engineering and production are expanding rapidly to meet the exponential explosions in knowledge and technology. Both are fundamental to the growth and advancement of modern China, and to the role of Hong Kong, which provides major scientific and logistical support for the Pearl River Delta Region - Students should identify current developments in the domain, and interdependent areas, at local, regional and global levels
1.1.3 Beginners' skill set to facilitate entry to further studies and/or work	<p>Students will be able to:</p> <ul style="list-style-type: none"> - appreciate engineering achievements and how an engineering object or process is being developed - apply knowledge of mathematics, science, technology and engineering - design and conduct experiments, and analyse and interpret data - design or adapt a system, component, or process to meet realistic economic, environmental, social, and political constraints - identify, formulate, and solve engineering problems - use the techniques, skills and tools common to all disciplines of engineering practice such as use of measuring equipment (e.g. multi-meter), engineering drawing, building small-scale models - explore major concepts, ideas, and theories that underpin daily applications - understand the importance of abiding by ethical, social and legal requirements as well as professional ethics and responsibilities

Curriculum Components	Area Specific Examples
1.1.4 Foundation knowledge developed in basic education and Secondary 4	<p>Built upon the foundation acquired in:</p> <ul style="list-style-type: none"> - Mathematics, such as knowledge in measures, shape, space, number and algebra - Science, such as knowledge in force and motion, electricity, heat, materials and their properties, chemical reactions and energy, conservation of energy, the environment, and health - Technology Education, such as information processing, basic programming, software development, design and communication, production process, automation, design implementation and material processing, business environment, and cost accounting
1.1.5 Possible further study and career pathways	<ul style="list-style-type: none"> - Post-secondary courses in Engineering with a variety of foci. - Career development: professional and paraprofessional, including draftsman, technician, associate engineer, logistics operator, software developer, operations assistant in businesses and industries
1.1.6 Relations with core subjects and other elective subjects	<p>enhancing and enriching, e.g.</p> <ul style="list-style-type: none"> - Applied Learning courses provide a platform for students to enhance the depth and/or breadth of studies of Mathematics through application of the theories learned in the classroom <p>cross-fertilisation, e.g.</p> <ul style="list-style-type: none"> - the application of concepts from Physics in Engineering and Production courses consolidates and reinforces the learning of both subjects <p>expanding horizons, e.g.</p> <ul style="list-style-type: none"> - students specialising in Humanities subjects may broaden their horizons, explore their aptitudes and develop their different intelligences, thereby enhancing their all-round development through enrolling in Engineering and Production courses

Curriculum Components	Area Specific Examples
	<p><i>consolidating and synergising students' studies</i>, e.g.</p> <ul style="list-style-type: none"> - students undertake an in-depth study into a topic/domain of their own choice, which is not limited to the area or any area(s) of Applied Learning, where they have the opportunity to draw upon and integrate the knowledge and skills acquired and developed in their prior learning
1.1.7 Relations with other areas of studies/courses of Applied Learning	<p>Applied Learning courses in Engineering and Production can be enriched by the knowledge and skills from other areas, and vice versa. For instance,</p> <ul style="list-style-type: none"> - Applied Science – materials science, and production process - Business, Management and Law – product safety regulations, entrepreneurship, efficiency, and business management - Creative Studies – visual communication, and digital media - Services – engineering for services
1.2 Understanding and interpreting workplace requirements through practising the basic skills in an authentic or near authentic environment	
1.2.1 Practice learning within at least one representative domain related to the course	<p>Students are given hands-on experiences in an authentic or near authentic environment to explore at least one activity, product or service in depth. For example,</p> <ul style="list-style-type: none"> - in building services engineering, students can explore the improvements that communication networks and entertainment programmes can bring to the services and management of a modern building - in manufacturing and industrial engineering, after acquiring a basic understanding of the field students can explore a particular aspect, such as systems for quality control and product safety
1.2.2 Experiencing workplace requirements through practice	<ul style="list-style-type: none"> - Students should be able to discuss the roles and requirements of various positions within the engineering discipline - Students of environmental engineering, for instance, can discuss the job requirements which include knowledge

Curriculum Components	Area Specific Examples
	of site development, environmental safety and environmental laws, and database design for recording evaluation and monitoring activity
1.2.3 Acquiring the knowledge and skills essential to enable further learning within the area	<p>Students should be able to:</p> <ul style="list-style-type: none"> - apply the principles and theories of science, engineering, and mathematics to solve technical problems in research and development, manufacturing, sales, construction, inspection, and maintenance - create, evaluate and test potential solutions with simulated models - discuss the transfer of scientific discoveries and research findings to commercially viable products - communicate and present engineering and production ideas effectively in authentic or near authentic environments. E.g. in civil engineering, students should demonstrate knowledge and skills in aspects such as planning and building highways, bridges or wastewater treatment systems
1.2.4 Transferring learning to unfamiliar situations within related domains	<ul style="list-style-type: none"> - For instance, students can be challenged to transfer the skills acquired in aircraft engineering to automobile engineering - Students can apply the skills required of an engineer to being an informed client/project manager
1.3 Developing and applying conceptual, practical and reflective skills to demonstrate innovation and entrepreneurship	
<p>Through elective studies, case studies, project, etc, some students, with the support of tutors, may be able to demonstrate their learning beyond the level of information, knowledge and skill development to the level of conceptualising and meta-understanding, by drawing upon and integrating their learning across the curriculum and applying it to solve daily problems</p> <p>For example, students can apply the knowledge and skills related to aircraft entertainment systems to devise solutions to problems that can be applied to an intelligent building. In the process, students can draw upon:</p> <ul style="list-style-type: none"> • knowledge in audio and video cable routing on an aircraft to minimise interference and enhance sound and video quality • knowledge in cabin management systems as a means of tying together most of the systems that affect the residents 	

Curriculum Components	Area Specific Examples
1.3.1 Transferring learning to new environments	<ul style="list-style-type: none"> - Students should demonstrate the ability to devise solutions to problems and anticipate constraints in unfamiliar environments - Students should be immersed in science and mathematics as a way of seeing and making sense of 'Engineering and Production'
1.3.2 Demonstrating the understanding of key issues in a chosen domain, including cultural aspects	<ul style="list-style-type: none"> - To arouse students' interest in engineering and production, the history of the ideas, concepts, and related issues and problems of the engineering process should be introduced - Students discuss how engineers, through their work, make an impact on society, the environment, culture, and the daily life of people, and illustrate this with examples
1.3.3 Discussing the global and local environment in that particular domain	<ul style="list-style-type: none"> - For example, environmental engineering students can identify and discuss the causes of climate change, such as global warming; or pollution, such as acid rain and debate possible measures to stop or slow down such environmental change
1.3.4 Suggesting and illustrating opportunities for learning, development, etc related to the course	<p>For example, students can be encouraged to:</p> <ul style="list-style-type: none"> - explore further studies opportunities available and build up a career portfolio in a specific cluster in the area of Engineering and Production - identify personal traits required for further studies and employment in related clusters, and identify the weaknesses they need to address - explore the aptitudes and abilities needed in up to three selected career clusters and up to three pathways within these clusters, and identify a personal roadmap to these careers - understand the ever-changing requirements of the workplace, the development trends of the field and the relationship of lifelong learning to career development

Integration of foundation skills, thinking skills, people skills, and values and attitudes through application in the career competencies related to Engineering and Production

Curriculum Components	Area Specific Examples (Optional)
2. Foundation Skills	
2.1 Communication skills (including languages), such as understanding, developing and communicating ideas and information and interacting with others	- Be able to communicate ideas and interact with others in the language of engineering and production (e.g. in the language and jargon of engineering)
2.2 Numeracy skills , such as integrating and applying numerical and spatial concepts and techniques	- Be able to master numeracy and spatial concepts and techniques required to solve engineering and production problems
2.3 Information technology skills , such as using and adapting technologies	- Be able to apply and adapt software packages in gathering and analysing information, solving engineering and production problems, and communicating information
3. Thinking Skills	
3.1 Problem-solving and decision-making skills , such as identifying problems and providing appropriate solutions, taking into consideration social, economic and technological developments	- Be able to apply scientific method and lateral thinking to problem-solving and evaluating possible solutions, taking into consideration such factors as advancement in technology and impact on society
3.2 Analytical skills , such as recognising when and what information is needed, locating and obtaining it from a range of sources and evaluating, using and sharing it with others	- Gather necessary information from a range of sources - Analyse and make use of information in problem-solving
3.3 Creative thinking skills , such as visualising consequences, thinking laterally, recognising opportunities and potential, testing multiple options, and engaging with the artistic, cultural and intellectual work of others	- Develop innovative solutions to problems in the engineering environment - Predict future development trends in technology and society based on data collected and observation - Consciously adopt other cultural perspectives to challenge assumptions and values

Curriculum Components	Area Specific Examples (Optional)
3.4 Understanding interdependency and relationships between different areas of studies, societies and civilisations to form regional/global perspectives on social, economic and technological changes, such as describing patterns, structures and relationships, and making and interpreting predictions	<ul style="list-style-type: none"> - Be able to identify the impact of development of engineering and production on different societies and civilisations, and vice versa
4. People Skills	
4.1 Self-reflection and self-management skills, such as setting schedules of tasks for completion, and reflecting on goals and targets set	<ul style="list-style-type: none"> - Understand roles, responsibilities and interrelationships in engineering and production - Set priorities, goals and targets within time frames specific to the tasks - Take into account time and resource constraints in fulfilling work and production requirements
4.2 Interpersonal skills, such as interacting with other people and cultures and contributing to the community	<ul style="list-style-type: none"> - Understand the interdependency of roles, responsibilities and relationships in the workplace - Present a proposed solution to an audience from a variety of backgrounds and cultures - Liaise with different parties to a project
4.3 Collaborative and team building skills	<ul style="list-style-type: none"> - Understand the different roles in team activities, e.g. as a team leader or member - Achieve objectives of the team through dealing with issues, problems and conflicts with team members by means of mediation, negotiation and conciliation
5. Values and Attitudes	
5.1 Honesty and integrity, such as understanding the importance of perseverance and transparency	<ul style="list-style-type: none"> - Understand the importance of honesty and integrity in carrying out engineering projects and respect the rules of professional conduct
5.2 Dependability and responsibility, such as being trustworthy and behaving responsibly	<ul style="list-style-type: none"> - Understand and fulfil the duties to self, to others and to society - Demonstrate dependability by developing and maintaining professional behaviours and positive attitudes - Assume corporate, social and legal

Curriculum Components	Area Specific Examples (Optional)
	responsibilities
5.3 Enthusiasm and motivation to participate actively in life	<ul style="list-style-type: none"> - Contribute and participate actively in both individual and teamwork - Take calculated risks and assume the responsibility for the outcome
5.4 Willingness to learn , such as being self-motivated in learning	<ul style="list-style-type: none"> - Show concern, curiosity and appreciation to matters in the environment - Be a reflective lifelong learner, willing to admit mistake and make improvements
5.5 Self-confidence and self-esteem , such as being confident in one's own abilities and potential for personal growth and developing attachment to the culture of a chosen group	<ul style="list-style-type: none"> - Demonstrate a sense of commitment towards one's self, the community, the nation and the shared world - Show confidence and esteem in a variety of contexts such as presenting ideas and being receptive to others' advice and criticisms - Develop self-confidence and self-esteem through successfully completing tasks
5.6 Respect for others and for law and authority , such as recognising the right of everybody to feel valued and be safe, and achieving a balance between rights and obligations	<ul style="list-style-type: none"> - Recognise and respect the responsibilities of a professional engineer including but not limited to: <ul style="list-style-type: none"> • responsibility to the profession – to uphold the dignity, standing and reputation of the profession • responsibility to colleagues – to foster mutual advancement of the profession • responsibility to employers or clients – to discharge duties with integrity and in accordance with the highest standards of business ethics • responsibilities to the public – to serve the overriding interest of the general public, in particular their environment, welfare, health and safety - Respect diversity in the workplace when working with both internal and external parties - Respect the importance of abiding by ethical, social and legal requirements relating to such areas as product safety and workplace safety

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