

**LegCo Panel on Manpower  
(Meeting on 21 November 2002)**

**Setting up a Qualifications Framework  
and the Associated Quality Assurance Mechanism**

**Purpose**

This paper seeks Members' views on the proposal to set up a qualifications framework (QF) and the associated quality assurance (QA) mechanism in Hong Kong.

**Background**

2. In May 2002, the Education and Manpower Bureau (EMB) commissioned PWC Consulting (the Consultant) to carry out a consultancy study on setting up a QF and the associated QA mechanism in Hong Kong. The Consultant's recommendations are summarized in the attached Executive Summary of the consultancy report.

**Benefits of a Qualification Framework**

3. A QF is made up of a hierarchy of qualifications that sets out the general outcome standards of qualifications at each level. A well-structured QF will bring wide recognition of the qualifications that it encompasses. Through their participation in developing the QF, employers can ensure that the skills and standards required of their workforce will be included in various education and training programmes. With clear progression pathways provided in the QF, people can draw up their own road maps to upgrade their skills and to pursue lifelong learning. Training providers will also be encouraged to provide more diversified training programmes in response to market needs.

**Proposed Qualifications Framework**

4. The proposed QF consists of eight levels including an open-ended entry level. The QF levels are characterised by generic level descriptors (see Appendix B of the Executive Summary). Learning outcomes together with assessment criteria will form the outcome standards, which specify the requirements for the award of credits. In the long run, a qualification placed in the QF will be specified by its title attached with level and credits (e.g. Certificate in Youth Counselling, Level 2, with 80 credits). The proposed levels and qualification titles are shown in the following table:

<b>Levels</b>	<b>Titles</b>
7	Doctorate
6	Masters, Postgraduate Diplomas/Certificates
5	Degree
4	Associate Degree, Higher Diploma
3	Diploma
2	Certificate
1	Certificate
Entry	Not applicable

5. For the sake of transparency, it is necessary to compile a QF Register to enable the public to access details of all recognised qualifications. Also, further work will be required in establishing a credit accumulation and transfer system and articulation arrangements between different sectors, formulating criteria and procedures for recognition of prior learning and registering professional qualifications.

6. To be meaningful, the generic descriptors in the proposed QF will have to be supplemented by more specific learning outcomes and standards for each level of qualifications in respect of individual industries. These will have to be supported by accredited training packages. The development process will be elaborate involving identification of skills and standards required for different levels of jobs in an industry. They will form the basis for specifying the learning outcome for each level of qualification and the corresponding assessment criteria. Training providers will design training programmes accordingly. In developing training packages, active participation and close collaboration by employers, employees, training providers and the Government will be essential.

### **Quality Assurance Mechanism**

7. Before a training provider can place its programmes onto the QF Register, the programmes must be accredited by an independent quality assurance body to ensure that the qualifications meet the required standard. A training provider that has successfully undergone an institutional accreditation will be granted self accrediting status. They will be exempted from individual

programme accreditation but will be subject to periodic quality assurance audits. The Consultant has recommended that the Hong Kong Council for Academic Accreditation (HKCAA) should be expanded to perform the quality assurance role in the vocational education and continuing education sectors. However, changes to the composition of its Council and accreditation criteria will be necessary before HKCAA can perform the expanded roles.

### **Way Forward**

8. The Consultant has prepared an implementation roadmap for the proposal at Appendix I of the Executive Summary. We are currently consulting the public and major stakeholders on the proposal. The actual timetable for implementation will be subject to results of the consultation and the resources available.

### **Advice Sought**

9. Members are invited to comment on the proposal as set out in the Executive Summary.

Education and Manpower Bureau  
November 2002

# Setting up a Qualifications Framework and Associated Quality Assurance Framework for Hong Kong - An executive summary

*13 September 2002*

Education and Manpower Bureau

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**Executive summary**

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## EXECUTIVE SUMMARY

The Government has proposed a qualifications framework for Hong Kong, to be developed in association with requirements for the quality assurance of those qualifications. PwC Consulting (PwC) was engaged to help develop the framework and advise on its implementation.

A study of qualifications systems and developments in seven countries was completed, and key lessons for Hong Kong were derived. The Steering Group for the consultancy also considered two further sets of papers summarising work in progress. Key stakeholders were consulted, including the institutions and professional bodies.

In parallel, an Information Technology Working Group modelled and tested the QF. Examples of their work are set out in the final appendices to this executive summary.

This executive summary sets out the core of PwC's recommendations on the qualifications and quality assurance frameworks. It takes into account the decisions made by the consultancy steering group in the course of the project. A number of appendices follow the executive summary and provide further details to support the summary.

A list of deliverables submitted to the Education and Manpower Bureau (EMB) over the course of the consultancy is summarised in Appendix A.

## QUALIFICATIONS FRAMEWORK (QF)

The QF is a proposed architecture, or skeletal structure, to order and support qualifications, and facilitate and promote lifelong learning.

The architecture consists of seven levels and an open-ended Entry level below level 1. The seven levels are described by generic level descriptors, which include recognition of the cognitive skills of critical thinking and problem solving, and the commonly applied skills of communication, information technology and numeracy. These generic level descriptors are used to locate a qualification at one of the seven levels on the framework.

The seven levels plus the Entry level cover the spectrum of qualifications in the post-secondary sector of education. ‘Post-secondary’ here refers to the qualifications that can be attained by persons who have left school (post the school), but it covers attainments at levels equivalent to Secondary 3 and above, and in the case of some Entry level courses, to attainments below Secondary 3.

Appendix B sets out the generic level descriptors.

There is also a recommended set of qualification titles. These are consciously simple and follow common Hong Kong practice<sup>1</sup>. Together, the title and level of a qualification sets its ‘height’. Its ‘depth’ is indicated by its credit total. Appendix C sets out the recommended titles. Although a hierarchy of titles is recommended as good practice, titles will need to be applied flexibly, and exceptions will occur.

Credits are assigned to each qualification. One credit equals 10 hours of notional study, based on the amount of time an average student would take to acquire the outcomes. Notional time includes, but is wider than, classroom hours. It also takes into account self-learning time, resource gathering, internet work, field work, and other relevant ingredients.

Where the qualification has defined components that can stand-alone (variously called units/modules/courses), these are also assigned levels and credits.

In future, a qualification will be expressed by its title + level + credits (e.g. Certificate in Youth Counselling, Level 2, with 80 credits).

To set the credits the outcome standards that underpin the curriculum content of qualifications and their components need to be identified. Learning outcomes + assessment criteria = the outcome standards. Outcome standards are the building blocks of the QF.

Appendix D sets out further details on outcome standards. Appendix H supports this with an example from the IT Working Group.

The public face of the QF will be a Qualifications Register, which will hold information on all quality assured post-secondary

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<sup>1</sup> The titles deliberately do not attempt to rationalise the significant variations in university postgraduate qualification titles, or in a number of shorter professional qualifications in the vocational arena. This is left for the professions and institutions to consider.



education<sup>2</sup> qualifications in Hong Kong. This will include all qualifications in the Education sector, and hopefully all professional qualifications, and overseas qualifications taught in Hong Kong.

## IMPLICATIONS FOR QUALIFICATIONS

The QF is intended for all post-secondary qualifications, including professional qualifications.

Qualifications designed by publicly funded institutions will be expected to meet the requirements of the Qualifications Register. Privately funded institutions can choose to remain outside of the QF, but by doing so will lose the marketing advantage of the QF brand. Qualifications ‘owned’ by professional bodies can be entered on the Register on a voluntary basis.

The following information would be publicly available via the Register:

- **Title** of the qualification
- **Level** at which the qualification is registered
- **Outcomes** of the qualification<sup>3</sup>
- **Structure** of the qualification (mandatory modules and optional electives etc)
- **Special notes:** for anything that characterises the qualification
- **Entry requirements** (e.g. pre-requisites)
- **Credits**
- **Developer and provider details** (of who has developed the qualification, and which institutions offer it). An icon will link the Register to the institution’s website to enable students to access institutional information such as course costs, enrolment dates etc.

A classification system will index the Register, and guide the public on how to search for information. It prevents circumstances

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<sup>2</sup> ‘Post-secondary’ here refers to the qualifications that cover attainments at levels equivalent to Secondary 3 and above.

<sup>3</sup> And, where there are stand-alone units/modules/courses, the outcomes for those components

whereby *economics*, for example, could be found under Business, Social Sciences, or Management respectively.

In addition to ordering qualifications and providing consistency, the classification system can be used to organise the accreditation of institutions. E.g. an institution can be accredited to provide courses up to level 4 in the fields of Science, Engineering and Technology, and Planning and Construction, and level 2 in Chinese language. Appendix E sets out the classification system used in South Africa, which we recommend as a starting point for Hong Kong.

To facilitate movement to the Register, all existing approved qualifications will be deemed to be on the Register. Transition to meeting new qualification definitions will occur within the time that it takes for one equivalent full time student to complete a qualification, or within five years.

## GOVERNANCE AND ADMINISTRATION OF THE QF

A QF Steering Committee is recommended to create joint ownership, built around three core partners: EMB, UGC and the new Manpower Development Committee (MDC) that is proposed for the vocational education and training sector. Other prominent education bodies will also be members<sup>4</sup>, along with representatives of employers, unions, and consortia of professional bodies.

The Steering Committee will have a wider agenda than simply the QF. It will provide advice to the Government on the policy direction for lifelong learning in Hong Kong, and steer and promote the implementation of an articulated post-secondary system. It will have no executive powers, which will lie with existing sector bodies like the UGC and MDC, and the institutions themselves. However, it will have a strong influencing role. A quality assurance framework will support the QF.

This approach exposes a significant hole in the current structural arrangements: the absence of a body, comparable to the UGC or the MDC, to coordinate or direct the policy development of the continuing education sector. A similar gap exists in the quality assurance arrangements.

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<sup>4</sup> Logical members include the Chair of the Education Commission, and representatives of the HK Council for Academic Accreditation and HK Examinations and Assessment Authority.

Consequently, we recommend that the new MDC at its inception to have representation with equal emphasis from two sectors: one for vocational education and training, and one for continuing education. We also recommend that EMB develop a capacity to interface with continuing education equivalent to the other post-secondary sectors.

A small unit in EMB will handle the administration of the Qualifications Register. An alternative is to locate this unit in Hong Kong Council for Academic Accreditation (HKCAA), a step we believe should be reserved until after the successful transition of the HKCAA to its new role (set out below).

## QUALIFICATIONS REGISTER

The Qualifications Register will operate as an on-line, web-based register or data warehouse of qualifications and units/modules/courses. Institutions can input data directly into the site.

While an institution provides data directly on to the web site, the site is secure and requires 'authentication' to gain access. Authentication is provided by the QF administrative unit, which will confirm the institution has accredited status. Self-accrediting institutions like the universities will have direct entry. Non-self-accrediting institutions will need to achieve that status via HKCAA.

Institutions will have access to directly view the official record of qualifications and units/modules/courses, and be able to electronically request updates to this information. Requests for changes to qualifications will be automatically created and will not require manual entry.

The Register is not linked to institutional funding. It is primarily an information source for students and, to a lesser extent, employers, professions and institutions. Consequently, the database will link back to the institutions that input the data – to allow students to acquire further information on the cost of the qualification, when it starts, who teaches it etc.

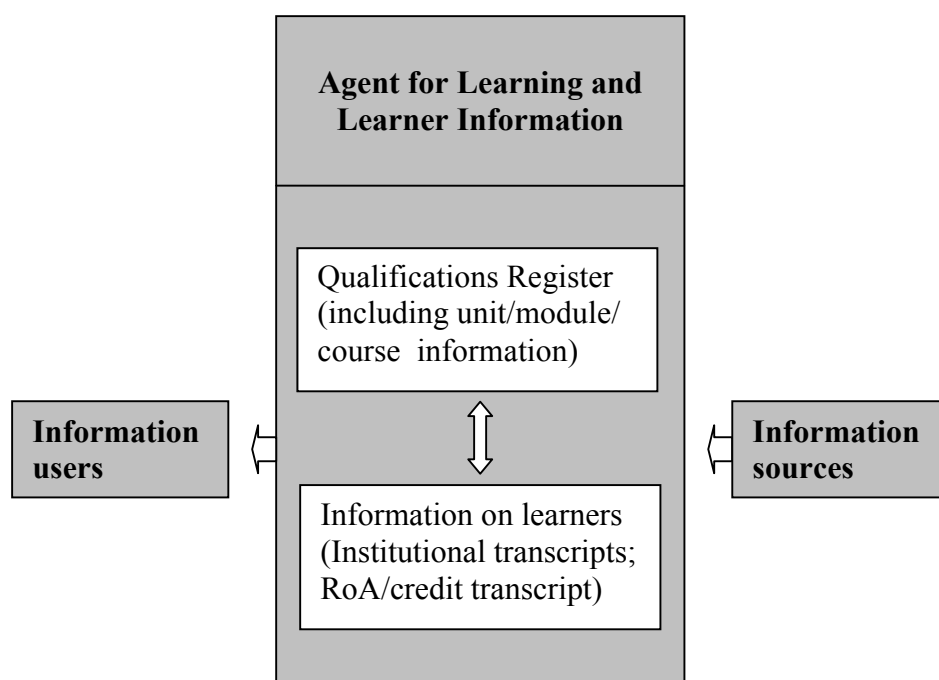
## STUDENT RECORDS

The QF enables two basic sets of information to be collected and managed:

- Information on learning - found in a Qualifications Register
- Information on learners - found in institutional transcripts as at present, or in a new record of achievement or credit transcript as has occurred in a number of other countries.

These countries are aiming at one, centrally held information resource as the most efficient means of enabling access to stakeholders and avoiding duplication of effort and expense.

This ideal model is set out below<sup>5</sup>:



To reflect the situation in Hong Kong, we propose a separation of the Qualifications Register from the information held on learners. Different structures and a different implementation timetable are proposed for each.

Our recommendation is that Hong Kong should consider the need for a comprehensive Hong Kong-wide student-results database and students' record of achievement, after it has evaluated the impact

<sup>5</sup> Adapted from the Credit and Qualifications Framework for Wales, EIWA 2002.

of the QF on lifelong learning, and when a demand for such a record becomes evident.

## **ARTICULATION OF QUALIFICATIONS, AND CREDIT ACCUMULATION AND TRANSFER**

The responsibility for articulation arrangements between qualifications lies with the institutions that award the qualifications. Similarly, while the QF enables credit accumulation and transfer (CAT) arrangements, specific transfers of credit are not mandatory for the institutions.

This approach recognises the current reality of strong institutional independence, but hopes to shape that reality in a positive direction for the benefit of learners. Continuous learning acquired in diverse ways and in diverse settings, over a lifetime, is currently difficult within the prevailing paradigm of Hong Kong's post-secondary education. There is very intense competition for a restricted number of publicly funded places. Demand exceeds supply. Institutions manage that situation by entry barriers. School examination results are the primary tool.

In this situation, institutions have few incentives to promote credit accumulation and transfer. CAT can only take root in supportive conditions. We recommend that a 'corridor' be created in the strictly controlled supply of places for people undertaking more advanced programmes with credits from lower level achievements. This requires a quota of funded places to be reserved for CAT students, or in the case of the UGC funded institutions, funding second year places to restore the fully funded student target of 18% of the cohort.

To support credit accumulation and transfer, we recommend that the UGC and the MDC use a criterion in their advice to Government on the funding of the institutions under their purview that reflects an evidence based judgement on the institution's active participation and implementation of CAT arrangements.

We also recommend further development of the model established by the Polytechnic University to provide an alternative route for adults to receive higher education within a consortium of providers. This, or a similar system, can act as a credit bank for post-secondary education and training in Hong Kong.

Under its approach, Polytechnic University considers credit transfer from CCEI member institutions to its School of

Professional Education and Executive Development (SPEED) through a standardised credit transfer system called CAM (Credit Accumulation Mechanism).

Students who successfully complete CAM programmes can accumulate their credits to gain a Professional and Continuing Education award, and transfer credits to conventional Polytechnic University programmes. Subjects offered as part of a continuing education programme by CCEI member institutions are assessed and benchmarked for the purpose of credit transfer to Polytechnic University's CAM system.

Appendix F provides further discussion of articulation, and credit accumulation and transfer.

## QUALITY ASSURANCE FRAMEWORK

The quality assurance framework refers to the accompanying quality assurance systems and regulations that support the QF.

The quality assurance arrangements for the universities are determined by their self-accrediting status, where they propose their own qualifications and take responsibility for ensuring the quality of those qualifications. We propose that the university sector continue to evolve its own quality assurance arrangements, noting the Sutherland Report's recommendation for a consolidation of the TLQPR, RAE and Management Reviews into a single institutional audit.

By contrast, the vocational education and training sector, and the evolving associate degrees sector are not self-accrediting. We recommend that the existing mandate of the HKCAA be expanded to take responsibility for ensuring the quality of all qualifications below degree level. This would include sub-degree qualifications of the Continuing Education departments of the universities.

Rather than a number of competing accreditation bodies, which can produce efficiencies but at the cost of inconsistent standards and processes of accreditation, we consider one body should quality assure all sub-degree work. To accommodate this expanded role, HKCAA's Council will need a different composition, and will need to strengthen its governance role to ensure a business model that balances quality assurance with the costs of that assurance to institutions.

Changes to HKCAA's current Ordinance will be necessary to allow its roles and responsibilities to be extended.

In preparation for its expanded role, we recommend that HKCAA conduct a comprehensive self-review, inviting extensive stakeholder participation.

Appendix G sets out further details on the changes envisaged for HKCAA.

In what we recommend for the quality assurance framework, a line is drawn between degree qualifications and those below degree level. The UGC is responsible for policy oversight of degree qualifications whether they are provided by UGC funded institutions or not. However, we envisage the UGC continuing to contract the HKCAA to provide quality assurance in the non-UGC funded institutions.

HKCAA will also need to refine its processes and criteria to manage its widened scope. To this end, we recommend a quality assurance framework with four legs:

- ***Initial registration of an institution***, which gives an institution a licence to practice. This first step in quality assurance must balance the reputation of Hong Kong's education system and the protection of consumers with the need for an open market, which allows new institutions and new offerings in a cost effective way. If the regulation is too heavy it prevents new providers and innovation. Hence institutional registration is a lighter touch than institutional accreditation (step 3 below). The initial licence to practice does not extend to a quality assured recognition to register qualifications on the QF. That is reserved for institutional accreditation (step 3 below), or programme validation if an institution does not submit to institutional accreditation, or fails to pass that test (step 2 below).
- ***Programme or course validation***, which applies when an institution is not ready for a whole institution accreditation. This is an intermediate step, which institutions can minimise or skip if they are ready to advance to institutional accreditation. Because its focus is microscopic (on individual programmes and courses), programme validation is not cost effective, and is viewed as a stage along the way that should be strictly limited.

- **Whole institutional accreditation**, which is the fulcrum of the quality assurance arrangements. This third step bestows an authority on the institution to accredit its own programmes and qualifications within an agreed scope<sup>6</sup>. Some institutions are already deemed to be self-accrediting and this leg of the quality assurance cycle does not apply to them. (Further details on institutional accreditation follow).
- **Whole institutional audit**<sup>7</sup>. This is a cyclical event, which should be repeated on a regular basis, the timing of which depends on the maturity of the institution. It also begins with a self-review, and in effect, reconfirms accreditation. For self-accrediting institutions the audit confirms the internal quality assurance processes that underpin their self-accrediting status. Conditions for improvement can be set where standards have slipped.

Institutions would be required to submit for whole institutional accreditation after 24 months of their initial registration. Where an institution is not ready, it would take the intermediate step of submitting its programmes to validation.

Institutional accreditation is started by a self-review. Institutions will determine their own purpose and performance indicators. To this end, quality is defined as fitness for purpose, and institutions effectively answer three core questions:

- *What* is the institution doing?
- *How* is it doing it?
- *How do we know* the institution is doing it well (and what is it learning)?

A sub-set of institutional accreditation is a specific accreditation of a body as an assessment centre, which enables a body to carry out assessment but not deliver courses of instruction.

While the focus of institutional accreditation is on institutional systems for managing quality, it also has the capacity to drill down on a sample basis to the programme level, to ensure that quality assurance systems work in practice.

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<sup>6</sup> E.g. an institution can be accredited to offer all courses to any level on the QF in any subject area, or it can be limited to certain areas and levels. So, an institution accredited for Business Studies and related courses up to level 6, would need to seek further accreditation if it was to offer medicine, but not if it was to offer accounting.

<sup>7</sup> The term ‘audit’ may not be a comfortable term for the institutions, but is used to distinguish the process from institutional review as currently practiced by HKCAA.



An accredited institution's authority to deliver qualifications is then subject to periodic audit, whose timing is determined by the maturity of the institution. A mature institution with a sound track record would be audited every 5 years. Less mature institutions would be audited more frequently. The audit can set conditions for improvement and a subsequent audit within a specified timeframe might focus only whether an institutions has met those conditions.

Currently, institutional accreditation and programme validation is required if an institution wishes to receive Government loans for start up, or access study loans for its students. We recommend this up-front quality test be tied to institutional registration, but be subject to confirmation by institutional accreditation or programme validation.

Existing institutions that have not sought accreditation by HKCAA can continue to operate without this external quality assurance, but they lose the academic advantages of participating in a QF, the marketing advantages of a quality assured brand, and their students cannot access loan arrangements.

We expect the Continuing Education departments of the universities, and the evolving Community Colleges that are associated with the universities, to be recognised as having institutional accreditation status, and to enter an audit cycle as mature institutions.

## THE IT PROTOTYPE

Under the purview of the Steering Group, a Working Group<sup>8</sup> from the information technology industry prototyped (modelled and tested) the QF to demonstrate how it could apply in IT. The prototype was also intended to serve as a reference for QF developments in other industries and professions.

The Working Group's core task was to define the outcome standards for whole qualifications, and for any stand-alone, component modules/courses of the qualifications. Using the information provided by the outcome standards on what a graduate of a qualification or a module/course knows and is able to do, the Working Group were able then to map progression pathways for IT.

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<sup>8</sup> The Working Group covered mainstream academic education and vocational training. It included courses offered by the Employees Retraining Board (ERB), the Information Technology Training and Development Centre (ITTDC) and the Hong Kong Institute of Vocational Education (IVE) of Vocational Training Council (VTC), as well as sub-degrees and degrees in the university sector.

The prototyping was kept manageable by restricting the numbers of institutions whose qualifications were examined, and setting outcome standards for only a select, specific range of IT work.

The prototyping showed that credit accumulation and transfer arrangements are very limited in Hong Kong, even for IT, where both academic knowledge and application intersect and where articulation between courses and across sectors would considerably benefit IT students and the economy. At present, articulation exists mainly within the internal nexus of IVE institutions and Training and Development Centres belonging to the VTC, and to a lesser extent, between the VTC and ERB at the Entry level of the QF. Very little articulation occurs in IT in the upper levels of the QF.

However, the prototyping showed that there is considerable scope to develop credit accumulation and transfer arrangements on the basis of shared public information on qualification and course outcome standards.

This IT prototype is preliminary work. A fully functioning QF would involve a continuous, iterative exercise of improving the definition of outcome standards that lies at the core of a QF. The heart of this work is defining the assessment criteria and the evidence needed for acceptable achievement. It is the clarity of this information that makes credit clear and provides the foundation for credit transfer arrangements.

Examples of the outcome standards and other information that will be part of the registered information accessed through the Qualifications Register are set out in Appendix H. A fuller version of this work done by the IT Working Group can be found in a separate report: “Deliverables of a Qualifications Framework: Prototype for Information Technology Industry”.

## IMPLEMENTATION

An implementation roadmap for introducing the QF and its associated regulatory and quality assurance arrangements is set out in Appendix I.

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**Appendices**

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**A. List of deliverables submitted to the EMB**

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**LIST OF DELIVERABLES SUBMITTED TO THE EDUCATION AND MANPOWER BUREAU**

<b>Date</b>	<b>Title of report</b>
17 June 2002	Comparative Study of Qualifications Framework and the Associated Regulatory Framework – Final report (SG)
17 June 2002	Comparative Study of Qualifications Framework and the Associated Regulatory Framework – International Case Studies (SG)
15 July 2002	Level Descriptors for Hong Kong and Qualification Titles (SG)
15 July 2002	Criteria and Procedures for Accreditation of Institutions and Courses (SG)
19 July 2002	Comparison of Generic and VTC Level Descriptors (EMB and VTC)
19 July 2002	Paper on expected deliverables from the QF IT Prototype Working Group (IT WG)
24 July 2002	Information and working template for QF IT Prototype Working Group (IT WG)
12 August 2002	QF, Qualifications Register, CATS, Quality Assurance and Other Issues (SG)
17 August 2002	Presentation handout for focus group with representatives from HKCAA (HKCAA)
24 August 2002	Presentation slides for focus group with representatives from HKCAA (HKCAA)
27 August 2002	Discussion material for the Workshop of the QF IT Prototype Working Group (IT WG)
27 August 2002	Discussion handout material for the QF IT Prototype Working Group – Further notes (IT WG)
28 August 2002	Revised and consolidated generic level descriptors (EMB and VTC)
13 September 2002	QF and RF Support Mechanisms, Marketing and Promotion, and Implementation Roadmap (SG)

# PWC CONSULTING

Date	Title of report
13 September 2002	Setting a Qualifications Framework for Hong Kong – An executive summary for whole consultancy (SG)

SG: QF Consultancy Project Steering Group  
EMB: Education and Manpower Bureau  
VTC: Vocational Training Council  
IT WG: IT Prototype Working Group  
HKCAA: Hong Kong Council for Academic Accreditation



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**B. Proposed level descriptors**

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Level	Generic Level Descriptors			
	Knowledge & Intellectual Skills	Processes	Application, Autonomy & Accountability	Communication, IT and Numeracy
7	<ul style="list-style-type: none"> <li>- Demonstrate and work with a critical overview of a subject or discipline, including an evaluative understanding of principal theories and concepts, and of its broad relationships with other disciplines</li> <li>- Identify, conceptualise and offer original and creative insights into new, complex and abstract ideas and information</li> <li>- Deal with very complex and/or new issues and make informed judgements in the absence of complete or consistent data/information</li> <li>- Make a significant and original contribution to a specialised field of inquiry, or to broader interdisciplinary relationships.</li> </ul>	<ul style="list-style-type: none"> <li>- Demonstrate command of research and methodological issues and engage in critical dialogue</li> <li>- Develop creative and original responses to problems and issues in the context of new circumstances.</li> </ul>	<ul style="list-style-type: none"> <li>- Apply knowledge and skills in a broad range of complex and professional work activities, including new and unforeseen circumstances</li> <li>- Demonstrate leadership and originality in tackling and solving problems</li> <li>- Accept accountability in related decision making</li> <li>- High degree of autonomy, with full responsibility for own work, and significant responsibility for others</li> <li>- Deal with complex ethical and professional issues.</li> </ul>	<ul style="list-style-type: none"> <li>- Strategically use communication skills, adapting context and purpose to a range of audiences</li> <li>- Communicate at the standard of published academic work and/or critical dialogue</li> <li>- Monitor, review and reflect on own work and skill development, and change and adapt in the light of new demands</li> <li>- Use a range of software and specify software requirements to enhance work, anticipating future requirements</li> <li>- Critically evaluate numerical and graphical data, and employ such data extensively.</li> </ul>





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Level	Generic Level Descriptors			
	Knowledge & Intellectual Skills	Processes	Application, Autonomy & Accountability	Communication, IT and Numeracy
6	<ul style="list-style-type: none"> <li>- Critically review, consolidate, and extend a systematic, coherent body of knowledge</li> <li>- Utilise highly specialised technical research or scholastic skills across an area of study</li> <li>- Critically evaluate new information, concepts and evidence from a range of sources and develop creative responses</li> <li>- Critically review, consolidate and extend knowledge, skills practices and thinking in a subject/discipline</li> <li>- Deal with complex issues and make informed judgements in the absence of complete or consistent data/information.</li> </ul>	<ul style="list-style-type: none"> <li>- Transfer and apply diagnostic and creative skills in a range of situations</li> <li>- Exercise appropriate judgement in complex planning, design, technical and/or management functions related to products, services, operations or processes, including resourcing and evaluation</li> <li>- Conduct research, and/or advanced technical or professional activity</li> <li>- Design and apply appropriate research methodologies.</li> </ul>	<ul style="list-style-type: none"> <li>- Apply knowledge and skills in a broad range of professional work activities</li> <li>- Practice significant autonomy in determining and achieving personal and/or group outcomes</li> <li>- Accept accountability in related decision making including use of supervision</li> <li>- Demonstrate leadership and /or make an identifiable contribution to change and development.</li> </ul>	<ul style="list-style-type: none"> <li>- Communicate, using appropriate methods, to a range of audiences including peers, senior colleagues, specialists</li> <li>- Use a wide range of software to support and enhance work; identify refinements to existing software to increase effectiveness or specify new software</li> <li>- Undertake critical evaluations of a wide range of numerical and graphical data, and use calculations at various stages of the work.</li> </ul>

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Level	Generic Level Descriptors			
	Knowledge & Intellectual Skills	Processes	Application, Autonomy & Accountability	Communication, IT and Numeracy
5	<ul style="list-style-type: none"> <li>- Generate ideas through the analysis of abstract information and concepts</li> <li>- Command wide ranging, specialised technical, creative and/or conceptual skills</li> <li>- Identify and analyse both routine and abstract professional problems and issues, and formulate evidence-based responses</li> <li>- Analyse, reformat and evaluate a wide range of information</li> <li>- Critically analyse, evaluate and/or synthesise ideas, concepts, information and issues</li> <li>- Draw on a range of sources in making judgments.</li> </ul>	<ul style="list-style-type: none"> <li>- Utilise diagnostic and creative skills in a range of technical, professional or management functions</li> <li>- Exercise appropriate judgement in planning, design, technical and/or supervisory functions related to products, services, operations or processes.</li> </ul>	<ul style="list-style-type: none"> <li>- Perform tasks involving planning, design, and technical skills, and involving some management functions</li> <li>- Accept responsibility and accountability within broad parameters for determining and achieving personal and/or group outcomes</li> <li>- Work under the mentoring of senior qualified practitioners</li> <li>- Deal with ethical issues, seeking guidance of others where appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>- Use a range of routine skills and some advanced and specialized skills in support of established practices in a subject/discipline, for example:</li> <li>- Make formal and informal presentations on standard/mainstream topics in the subject/discipline to a range of audiences</li> <li>- Participate in group discussions about complex subjects; create opportunities for others to contribute</li> <li>- Use a range of IT applications to support and enhance work</li> <li>- Interpret, use and evaluate numerical and graphical data to achieve goals/targets.</li> </ul>

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Level	Generic Level Descriptors			
	Knowledge & Intellectual Skills	Processes	Application, Autonomy & Accountability	Communication, IT and Numeracy
4	<ul style="list-style-type: none"> <li>- Develop a rigorous approach to the acquisition of a broad knowledge base, with some specialist knowledge in selected areas</li> <li>- Present and evaluate information, using it to plan and develop investigative strategies</li> <li>- Deal with well defined issues within largely familiar contexts, but extend this to some unfamiliar problems</li> <li>- Employ a range of specialised skills and approaches to generate a range of responses.</li> </ul>	<ul style="list-style-type: none"> <li>- Operate in a range of varied and specific contexts involving some creative and non-routine activities</li> <li>- Exercise appropriate judgement in planning, selecting or presenting information, methods or resources</li> <li>- Carry out routine lines of enquiry, development of investigation into professional level issues and problems.</li> </ul>	<ul style="list-style-type: none"> <li>- The ability to perform skilled tasks requiring some discretion and judgement, and undertake a supervisory role</li> <li>- Undertake self-directed and a some directive activity</li> <li>- Operate within broad general guidelines or functions</li> <li>- Take responsibility for the nature and quantity of own outputs</li> <li>- Meet specified quality standards</li> <li>- Accept some responsibility for the quantity and quality of the output of others.</li> </ul>	<ul style="list-style-type: none"> <li>- Use a wide range of routine skills and some advanced skills associated with the subject/discipline — for example:</li> <li>- Present using a range of techniques to engage the audience in both familiar and some new contexts</li> <li>- Read and synthesise extended information from subject documents; organise information coherently, convey complex ideas in well-structured form</li> <li>- Use a range of IT applications to support and enhance work</li> <li>- Plan approaches to obtaining and using information, choose appropriate methods and data to justify results &amp; choices</li> <li>- Carry out multi-stage calculations.</li> </ul>

# PWC CONSULTING

Level	Generic Level Descriptors			
	Knowledge & Intellectual Skills	Processes	Application, Autonomy & Accountability	Communication, IT and Numeracy
3	<ul style="list-style-type: none"> <li>- Apply knowledge and skills in a range of activities, demonstrating comprehension of relevant theories</li> <li>- Access, organise and evaluate information independently and make reasoned judgements in relation to a subject or discipline</li> <li>- Employ a range of responses to well defined, but sometimes unfamiliar or unpredictable, problems</li> <li>- Make generalisations and predictions in familiar contexts.</li> </ul>	<ul style="list-style-type: none"> <li>- Operate in a variety of familiar and some unfamiliar contexts, using a known range of technical or learning skills</li> <li>- Select from a considerable choice of predetermined procedures</li> <li>- Give presentations to an audience</li> </ul>	<ul style="list-style-type: none"> <li>- The ability to perform tasks in a broad range of predictable and structured contexts which may also involve some non-routine activities requiring a degree of individual responsibility</li> <li>- Engage in self-directed activity with guidance/evaluation</li> <li>- Accept responsibility for quantity and quality of output</li> <li>- Accept well defined but limited responsibility for the quantity and quality of the output of others</li> </ul>	<ul style="list-style-type: none"> <li>- Use a wide range of largely routine and well practiced skills — for example:</li> <li>- Produce and respond to detailed and complex written and oral communication in familiar contexts, and use a suitable structure and style when writing extended documents.</li> <li>- Select and use standard applications to obtain, process and combine information</li> <li>- Use a wide range of numerical and graphical data in routine contexts, which may have some non-routine elements.</li> </ul>

# PWC CONSULTING

Level	Generic Level Descriptors			
	Knowledge & Intellectual Skills	Processes	Application, Autonomy & Accountability	Communication, IT and Numeracy
2	<ul style="list-style-type: none"> <li>- Apply knowledge based on an underpinning comprehension in a selected number of areas</li> <li>- Make comparisons with some evaluation and interpret available information</li> <li>- Apply basic tools and materials and use rehearsed stages for solving problems.</li> <li>- Operate in familiar, personal and/or everyday contexts</li> <li>- Take account the identified consequences of actions.</li> </ul>	<ul style="list-style-type: none"> <li>- Choose from a range of procedures performed in a number of contexts, a few of which may be non-routine</li> <li>- Co-ordinate with others to achieve common goals.</li> </ul>	<ul style="list-style-type: none"> <li>- The ability to perform a range of tasks in predictable and structured contexts</li> <li>- Undertake directed activity with a degree of autonomy</li> <li>- Achieve outcomes within time constraints</li> <li>- Accept defined responsibility for quantity and quality of output subject to external quality checking.</li> </ul>	<ul style="list-style-type: none"> <li>- Use skills with some assistance — for example:</li> <li>- Take active part in discussions about identified subjects</li> <li>- Identify the main points and ideas from documents and reproduce them in other contexts</li> <li>- Produce and respond to a specified range of written and oral communications, in familiar/routine contexts</li> <li>- Carry out a defined range of tasks to process data and access information</li> <li>- Use a limited range of familiar numerical and graphical data in everyday contexts</li> <li>- Carry out calculations, using percentages and graphical data to given levels of accuracy.</li> </ul>

# PWC CONSULTING

Level	Generic Level Descriptors			
	Knowledge & Intellectual Skills	Processes	Application, Autonomy & Accountability	Communication, IT and Numeracy
1	<ul style="list-style-type: none"> <li>- Employ recall and demonstrate elementary comprehension in a narrow range of areas with dependency on ideas of others</li> <li>- Exercise basic skills</li> <li>- Receive and pass on information</li> <li>- Use, under supervision or prompting, basic tools and materials.</li> <li>- Apply learnt responses to solve problems</li> <li>- Operate in familiar, personal and/or everyday contexts</li> <li>- Take some account, with prompting, of identified consequences of actions.</li> </ul>	<ul style="list-style-type: none"> <li>- Operate mainly in closely defined and highly structured contexts</li> <li>- Carry out processes that are repetitive and predictable</li> <li>- Undertake the performance of clearly defined tasks</li> <li>- Assume a strictly limited range of roles.</li> </ul>	<ul style="list-style-type: none"> <li>- The ability to perform tasks of routine and repetitive nature given clear direction</li> <li>- Carry out directed activity under close supervision</li> <li>- Rely entirely on external monitoring of output and quality</li> </ul>	<ul style="list-style-type: none"> <li>- Use very simple skills with assistance — for example:</li> <li>- Take some part in discussions about straightforward subjects</li> <li>- Read and identify the main points and ideas from documents about straightforward subjects</li> <li>- Produce and respond to a limited range of simple, written and oral communications, in familiar/routine contexts</li> <li>- Carry out a limited range of simple tasks to process data and access information</li> <li>- Use a limited range of very simple and familiar numerical and pictorial data</li> <li>- Carry out calculations, using whole numbers and simple decimals to given levels of accuracy.</li> </ul>



# PWC CONSULTING

Level	Generic Level Descriptors			
	Knowledge & Intellectual Skills	Processes	Application, Autonomy & Accountability	Communication, IT and Numeracy
E	- An open-ended level, without specific descriptors.			



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**C. Qualification titles**

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## QUALIFICATION TITLES

The HKCAA notes that:

“The myriad of post-secondary<sup>9</sup>/sub-degree qualifications that exist in Hong Kong has not been conducive towards any systematic recognition of these qualifications. As there is no limitation on the type of sub-degree qualifications which may be awarded, a large number of such qualifications entitled diplomas, higher diplomas, certificates, higher certificates, professional diplomas, advanced certificates, etc. have mushroomed in the territory. The more readily recognizable qualifications are those awarded by the publicly funded institutions: the former polytechnics and the universities, the Vocational Training Council, and registered Post-Secondary Colleges. But even among the qualifications awarded by these institutions there are differences in respect of entry requirements and exit standards even where the award has the same title. In addition, there are over 1,000 post-secondary awards offered by the continuing education departments/schools of the tertiary institutions, and also numerous private institutions which award different qualifications among which there is even less consistency.”<sup>10</sup>

Policy makers have tried to combat the ‘jungle’ of qualifications by tying levels of the framework with agreed qualification titles. In all countries, there is great commonality in the titles at the top levels: *Doctorate*, *Masters*, and *Degree*. There is some shared confusion around the meaning of *Honours* degrees, and also *postgraduate diplomas* and *postgraduate certificates*, because these qualification titles contain terms (diploma and certificate) that are also associated with qualifications at lower levels of the frameworks.

Generally, *Diploma* has been the term for sub-degree qualifications that sit between certificates at the lowest levels and degrees which mark the beginning of the higher education ladder. Over time *Higher Diplomas* have developed to allow a further distinction.

The US system of *Associate Degrees* has operated at this same intermediate level. The introduction of Associate Degrees has created some confusion in Hong Kong. Higher Diplomas and Associate Degrees appear to be at the same level, distinguished by the greater vocational and applied content in the Higher Diplomas,

<sup>9</sup> ‘Post-secondary’ here refers to the qualifications that cover attainments at levels equivalent to Secondary 3 and above.

<sup>10</sup> *The Quality Assurance of Higher Education in Hong Kong*, in Dunkerley & Wong (ed) *Global Perspectives on Quality in Higher Education*, 2001

whereas Associate Degrees are intended to be more generic. However, the US experience of Associate Degrees is that while they began as generic and foundation qualifications, over time they have become more vocationally specialized.

*Certificates* sit at the lower or entry levels of the qualifications framework. So Hong Kong has had HKCEE, craft certificates and more recently, the Foundation Certificates.

The approach used by most countries is to agree to standardize the terms as much as possible by triangulating the title with the number of credits at a specified level of a qualifications framework.

## Recommendation

It is recommended that Hong Kong adopt a pragmatic approach and continue with the titles it has in existence, but encourage a migration to *title + level + credits*.

This allows institutions to continue to offer programmes of varying duration. However, the credits apply an output measure rather than time served. This will provide an incentive to institutions to minimize time-serving, and use creative teaching methods.

The mechanism for encouraging migration to title + level + credits should be through programme validation and institutional accreditation. Validation and accreditation are conditional on qualifications being framed in terms of the qualifications framework levels and credits.

At the certificate level (levels 1 and 2) there should be a minimum credit value of 30 credits, but with an open-ended arrangement thereafter, so that some certificates are smaller in size than the 120 credits that is a notional year long study (10 hours of study time for an average student = 1 credit).

Because qualifications titles cannot be applied too rigidly in many areas of education our recommended titles (in the table below) should not be applied in a mandatory way. Rather, more emphasis should be given to the level and credits than the title. This will allow modules to exist on the QF, which will normally attract the title of *Certificate in...* The small size of the modules will be denoted by their credit total.

Our recommended titles, however, do acknowledge that the public can be better served by a consciously introduced simplicity in qualifications titles, acknowledging that there are further issues that remain and can only be solved by consultation and debate.

Levels	Title
7	Doctorate
6	Masters, Postgraduate Diplomas/ Certificates
5	Degree
4	Associate Degree, Higher Diploma
3	Diploma
2	Certificate
1	Certificate

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**D. Outcome standards**

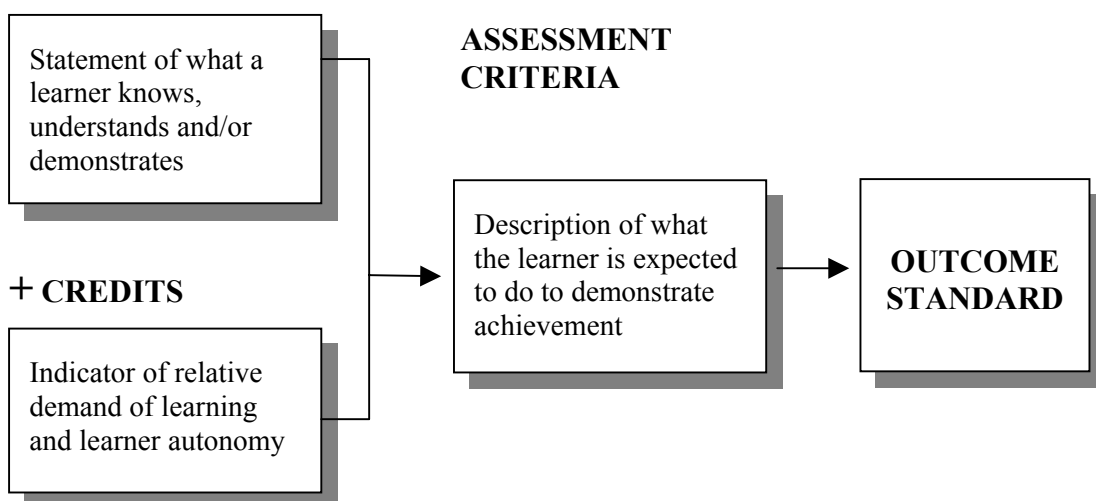
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## OUTCOME STANDARDS

The diagram below sets out the relationship between learning outcomes and assessment criteria to form the outcome standards.

### LEARNING OUTCOMES



### + QUALIFICATION LEVELS



- Outcome standards are distinct from the aims of learning - they are concerned with the achievements of the learner rather than the intentions of the teacher.
- The outcomes specified for a learning experience must be assessable. The purpose of assessment criteria is to establish clear and unambiguous standards of achievement for each outcome. The generic level descriptors can be used as a guide during this process.
- Assessment methods should not be confused with assessment criteria. A method could be: a '1500 word essay'; whilst the latter could be: the learner should demonstrate understanding of the specified topic, presenting well-structured arguments with reference to appropriate sources.

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- Outcome standards (learning outcomes, together with assessment criteria) specify the minimum requirements for the award of credit. Grading is based on attainment above or below the minimum requirements for the award of credit.
- Consequently, a credit accumulation and transfer system does not encompass a grading scheme. The assessment criteria are set at a *threshold level of achievement*. Grading criteria to discriminate between the relative performances of students who have surmounted this threshold can differentiate student performance. But that is a task for the institutions, not the CAT system.



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**E. Classification system**

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## CLASSIFICATION SYSTEM

A classification system acts as a horizontal axis on the framework, operating in tandem with the vertical axis of the levels of qualifications.

This horizontal axis cuts up the QF into ‘fields’ or ‘areas’. The South African example of 12 fields is provided below.

The South African Qualifications Authority’s fields are:

- 01 Agriculture and Nature Conservation
- 02 Culture and Arts
- 03 Business, Commerce and Management Studies
- 04 Communication Studies and Languages
- 05 Education, Training and Development
- 06 Manufacturing, Engineering and Technology
- 07 Human and Social Studies
- 08 Law, Military Science and Security
- 09 Health Sciences and Social Services
- 10 Physical, Mathematical, Computer and Life Sciences
- 11 Services
- 12 Physical Planning and Construction.

This classification system would not apply to the self-accrediting universities. This is partly because they have their own autonomous systems for organising disciplines, and partly because higher education must have flexible discipline boundaries to create new areas of learning (like biotechnology).

It is recommended that Hong Kong adopt a classification system, using the South African system as its starting point. The Government Statistics department should be involved before any final decisions are made on classifications, to ensure HKSAR-wide consistency.



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**F. Articulation and CATS**

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## ARTICULATION AND CREDIT ACCUMULATION AND TRANSFER SCHEME

### ARTICULATION

Articulation refers to the formal links established between courses/units/modules and/or qualifications. Strictly speaking, articulation is distinguished from credits and credit accumulation and transfer (CAT), because it relates to the courses or programmes of teaching and learning, rather than the outcome standards that underpin such programmes.

The QF focuses on the outcome standards and the qualifications that certify them, as distinct from curricula that are embedded in the teaching programme. Credits refer to the achievement of these outcome standards.

By contrast, the teaching programme normally includes the curricula (the details of what is taught), and the syllabus (the assessment strategy and the modes of assessment).

But increasingly, CAT and articulation are being treated as the same. Articulation is the term now commonly used to refer to formal arrangements for CAT.

#### General principles for articulation

- Not all qualification linkages will involve granting credit for previous qualifications. But where credit arrangements are established through a structured qualification linkage, the credit should be awarded to individuals who have evidence of achievement without the need for further assessment or demonstration of the relevant knowledge/skills.
- Linkages will generally be developed between qualifications involving the same, similar or complementary specialisations/fields of study. Arrangements reflecting linkages between general and specialised qualifications may also be developed, where appropriate.
- The formal agreement of a qualification linkage is determined by the organisation issuing the end-point award.

- The decision to develop qualification linkages is a matter for individual authorised organisations to determine in collaboration with each other.
- Information about qualification linkages should be widely disseminated to students as part of enrolment information.

## CREDIT

Credit can be granted in different forms. These include specified credit, unspecified credit and block credit. The form of credit will depend on the circumstances and context. As a general guide:

- *Specified credit* is most relevant to credit transfer-based linkages based on specific content, e.g. module Y in an associate degree or Higher Diploma is equivalent to unit X in a degree. Specified credit is also the most appropriate form for incomplete qualifications.
- *Unspecified credit* is most appropriate to articulation arrangements based on agreed relative value of awards being linked and/or linkages between generic qualifications. Unspecified credit taken as a block is most appropriate in dual and nested qualifications.

## Constraints on a credit system

The paper written for the university Heads identified two core challenges for CAT:

- Any attempt to adopt a common approach risks being perceived as a restricting academic freedom and institutional autonomy.
- Further, it may result in ‘standardisation’, by requiring more of the same type and level of courses to be offered, compromising academic rigour, and deterring specialisation.

While it was argued that CAT should be addressed cautiously, the experience of the European Credit Transfer System (ECTS) showed that:

“although academic freedom and diversity in the higher education are sometimes perceived to be threatened, in reality, it is not the case. This ... depends largely on how a CAT

system is implemented. If sufficient autonomy for the institutions is guaranteed, then the potential negative consequences may not arise”.

The paper concluded that flexibility is the key for introducing any CAT system.

However, the reality is that only slow progress is being made to introduce credit accumulation and transfer in Hong Kong. There are other constraints:

- Demand exceeds supply in the post-secondary system – providing little incentive for the institutions to give or recognise credit.
- The post-secondary system is strongly demarcated. Three clear boundaries are: between the self-accredited UGC funded universities and HKIEd, APA and OU; between the VTC institutions and the ‘higher education’ institutions; and between public and private institutions across the whole sector.
- There is a strong cultural bias supporting hierarchical elitism in education, based on a history of intense competition. This culminates in competitive entry points at every stage of education. There is also a corresponding bias against the notion of mass tertiary education. For instance, many in the public believe that open entry axiomatically lowers standards, though some international evidence would strongly dispute this.
- A limited internal market in post-secondary education. Instead, Hong Kong has looked beyond its borders to augment provision<sup>11</sup>. One manifestation of this trend is that the VTC has many more articulation arrangements with overseas universities than it has with Hong Kong universities.
- There is a limited postgraduate culture, with relatively few students electing to advance to higher degrees.
- CAT requires academics to clearly describe what they do. International experience suggests that there is natural resistance to this.
- There are *quantitative differences* between existing systems for assigning credit. E.g. the number of credits required for a three-year first degree ranges from 90 to 108 credits among the institutions. Hong Kong University is the exception with 180

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<sup>11</sup> 5% of post-secondary provision occurs outside of Hong Kong

credits. However, as HUCOM<sup>12</sup> has pointed out: *it is not difficult to establish a common currency of exchange for the same discipline.*

- There are differences between institutions in their curricula, the quality of teachers, the method of instruction, and other pedagogical matters. Given the *differences in input* (quality of students) and *processes* (the curricula, the method of instruction and assessment, etc), is it reasonable to assume that the *output* (that is, the attainment level) is the same?
- Each institution also has its own *grading structure and distribution of grades*. For example, institution X may award “As” more generously than Y. Treating grades equally across all institutions may compromise an institution’s right to determine entry requirement into courses and its own standard of achievement. Alternatively, grades would need to be moderated and calibrated if they were to be treated differently.
- There are questions of who should perform the function of moderation? Who should interpret the minimum grade required before the credits are to be recognised?
- There is also a need to set a home institution or “residency requirement” – the threshold number of credits that can be accumulated and be eligible for transfer. Establishing a threshold is important to ensure that students:
  - Fulfil a minimum number of credits at the institution where they plan to obtain the qualification
  - Have a sufficient number of credits in their specialist discipline, and
  - Achieve a qualification with a significant differentiation across disciplines.

Internationally, the precedent for a threshold residency requirement is 20% to 25% of the total number of credits required for a qualification, depending on the discipline concerned.

- The ‘shelf-life’ of the credits accumulated may be limited. While this applies less obviously to languages and the arts, many disciplines like IT and industrial design are changing

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<sup>12</sup> HUCOM: a Committee of the Heads of the Universities

very rapidly. As such, credits earned more than 5 years ago may not be relevant.

- The maintenance of accurate records of the attainment of credit is, therefore, important for individual and for institutions. The currency of credit is more important for learning undertaken over an extended period, by flexible modes, and for continued professional development where learning is expected to grow. This is one argument for Hong Kong to establish a system wide ‘record of achievement’ or credit transcript.
- Credit transfer must also take into account differing pre-requisites for entry into higher-level courses. E.g. the subject of Management Information taught in the IT department of a training institution may differ significantly from that of the business school. Hence, different institutions may demand different courses as prerequisites for entry into the next higher-level courses. HUCOM considered this raised the question of whether course prerequisites be standardised as well?

## RESPONSES AND CHALLENGES

### Commitment built on trust

The constraints are strong, but they face an equally strong, fundamental principle of education, the commitment to promote, encourage and reward learning wherever, whenever and however it occurs. This is what ‘lifelong learning’ means.

‘Credit’ comes from the Latin *credere* - to believe. An accepted convention of belief underpins a CAT system. CAT cannot work if the scheme attempts to model an exact science, with each decision facing a court of law. That approach leads to such complexity that the system topples under its own weight. Instead, CAT requires a commitment to make it possible, supported by an agreed language and descriptive framework for all qualifications.

### Quality assurance

The *quantitative* issues with credit are easily solved, as HUCOM noted. The *qualitative* issues too, can be resolved.

The universities under the UGC umbrella have a self-accrediting status, and receive public funding. This furnishes an implicit statement of quality. The public expect that their funds are

employed in institutions that have achieved the minimum threshold of quality.

The outputs of each institution will differ according to differences in inputs. But there is a common minimum standard of entry, and a common standard of exit that they all reach, signified by the qualifications they are licensed to award – Bachelors, Masters and Doctors degrees.

Similar arguments apply to VTC institutions, and all post-secondary providers who reach quality standards.

### *Grading differences*

Differences in grades are a reality for students, but they are not part of a CAT scheme, which relies on the threshold level of achievement that earns credit.

Furthermore, quality assurance mechanisms ensure that institutions do not exceed an acceptable band of tolerance in the award of credit – otherwise public funding is not justified to those offer easy or inflated grades.

### *Moderation and calibration*

Moderation and calibration are also, in effect, already answered. In the university sector for instance, the UGC's funding – based on checks on the quality of research (through the Research Assessment Exercise), teaching quality (TLQPR), and management quality (Management Reviews) – already moderates the quality of university qualifications. Those judged to be fit to receive public funding have reached a moderated standard.

Further, because credits schemes operate on an agreed threshold for credit, calibration is not an issue.

One weakness in quality assurance arrangements is that different regimes apply in different sectors of post-secondary education, which weakens public confidence and provides a strong argument for common external assurance applied to all post-secondary institutions.

The VTC's lack of transparent external quality assurance weakens the acceptance of its graduates into local universities. This argument should reduce substantially with a periodically checked self-accrediting status for the VTC.

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**G. Hong Kong Council for Academic  
Accreditation**

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## HONG KONG COUNCIL FOR ACADEMIC ACCREDITATION

We recommend that the remit of the HKCAA be widened so that it operates as the body to oversee quality assurance in non-UGC funded post-secondary education and training. This would encompass both the vocational and sub-degree CPD sectors.

HKCAA's criteria and processes can be used to apply more widely in post-secondary education – but with adjustments to recognise differences in culture, and the different stages of development and maturity in parts of the sub-degree and vocational education and training sectors.

Briefly, we recommend that the governing body, the Council, be widened in its composition to include industry and the professional sectors. The Council should also have more incentives to exert governance responsibility and authority to direct the organisation. This is necessary because of the HKCAA's monopoly position requires strong governance if it is to remain business friendly.

Further, HKCAA should:

- Develop a clearer approach to institutions seeking entry into post-secondary education, with matching criteria and processes. Currently, HKCAA's criteria, processes and general approach is geared to established institutions with an academic approach to education. We recommended an initial registration process, which would function as a licence to practice.
- Provide more emphasis on the outcomes of education and training in its criteria, linked to the QF and CAT, and a corresponding reduction in its current focus on the inputs of education (even though these remain important). This would require institutions to set outcome standards for their qualifications (and component units/modules/courses) and for the HKCAA to assess their performance of that task.
- Develop an understanding of the different cultures of vocational and continuing professional training. HKCAA was set up with a focus on existing providers who might want to upgrade the level of their qualifications to offer degrees. As a consequence, it has adopted a mature academic institution as its model, which does not translate well into other sectors.

HKCAA is already developing a simplified (abbreviated) format and processes for sub-degree work. In our view, however, that abbreviated process remains too academic in focus, and too

onerous. To illustrate our point: we do not consider it necessary to have an international representative to ensure international standards in vocational education. The employment market is a more reliable indicator of quality in vocational areas, and ensuring international standards can be managed with local inputs.

We also recommended that the HKCAA accommodate a different type of institution – providers that are focused on a narrow range of courses where the demands of the employment market provide the main assurance of quality.

Our core recommendation of a more widely representative Council also extended to the staff of HKCAA. HKCAA is essentially an outsourcing body that does not have to have detailed specific subject expertise within its own staff. Rather, the staff need more generalist skills - understanding quality assurance as it applies in varying situations, and applying contract management as they find, hire, assist and monitor accreditation panels. However, HKCAA could benefit by some cross-fertilisation of staff – and we recommend it second or hire some vocational and CPD staff.

We also recommend that the UGC assist in facilitating at least one senior university secondment to the HKCAA staff, to bring an understanding of the agency into the university sector, and vice versa.

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**H. IT Working Group examples**

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## Network Equipment Installation and Maintenance

### Outcome

After taking this module, students should have a demonstrated ability to design, construct and maintain an operating Ethernet to meet satisfactorily all the requirements specified by the users.

### Background Information

**Level:** 2

**Credit:** 2

**Purpose:** People credited with this module are able to: *explain the functions and operations* of a hub, switch and router; *discuss how to select* appropriate network equipment for a particular network situation; *terminate* RJ-45 plugs onto a Category 5 UTP cable; and *connect a personal computer* to a hub with a Category 5 UTP cable.

**Special Note:** User documentation can be one chapter of a quick reference guide.

**Entry:** Open.

**Structure:** This module belongs to a Certificate in IT Assistant Training at level 2, with a credit total of 97 credits.

### Assessment criteria

1. *Construct and connect a simple Ethernet connecting 10 personal computers say.*
  - 1.1 Identify or construct the required Category 5 UTP cables with RJ-45 plugs.
  - 1.2 Identify an Ethernet hub.
  - 1.3 Connect the personal computers to the hub.
2. *Understand ways of speeding up the simple network.*
  - 2.1 Discuss the associated benefits of replacing the hub with a switch.
  - 2.2 Explain how the switch can speed up the operation under certain circumstances.

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3. *Understand ways of connecting the simple network to other networks.*
  - 3.1 Explain how to connect the simple hub network to an existing Ethernet.
  - 3.2 Explain how to connect the simple hub network to Internet using routers.



# PWC CONSULTING

## Software Engineering - Systems Analysis & Design

### Outcome

After taking this module, students should have the ability to:

1. Understand the physical aspects of an information system in a prescribed business scenario, through investigation and fact-finding techniques, and to conduct logical systems analysis through data modelling and process modelling.
2. Design a new information system that complies with the business and user requirements stipulated in documents that have been passed on from the system analysis activities, and to design and prototype a new information system that is web-based, scalable, cost-efficient, and with high system integrity.

### Background Information

**Level:** 4

**Credit:** 27

**Purpose:** People credited with this module are able to: *outline* the software development life cycle; *explain* the characteristics of structured methodologies; *apply* the modelling techniques for systems analysis; *enumerate* the factors to be considered in designing a web-based information system; and *communicate* the essence of a proposed system through proper documentation.

**Special Notes:** System modelling techniques are based on NCC (UK) standard.

**Entry:** Mainly university graduates majoring in non-IT subjects. Details are found in the “Professional IT Training for non-IT Graduates” training program.

**Structure:** This module belongs to a Certificate in Professional IT Training for non-IT Graduates at level 4, with a credit total of 76 credits.

### Assessment criteria

1. *Draft a software development project schedule.*
  - 1.1 Identify the stages of work in software development.
  - 1.2 Identify the dependency of tasks.



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- 1.3 Identify the types of resources required in major tasks.
  
2. *Apply Process-Modeling techniques to a case-study project.*
  - 2.1 Create a system outline in the form of a Context Diagram.
  - 2.2 Create detailed Data Flow Diagrams.
  - 2.3 Prepare Procedure Specification (mini-Spec) for lowest-level processes.
  
3. *Apply Data Modeling techniques to a case-study project.*
  - 3.1 Use data normalization techniques.
  - 3.2 Identify entities and their relationships and express these in the form of Entity Relationship Diagrams.
  
4. *Tackle problems of the system in the case-study.*
  - 4.1 Identify problems in the current system.
  - 4.2 Propose solutions to the problems.
  - 4.3 Prepare logical process and data models for the proposed system.
  
5. *Design a new system to support the logical models in the previous step.*
  - 5.1 Do high-level or architectural design for a web-based solution.
  - 5.2 Do detailed design on business procedures, user interfaces, and database schema.
  
6. *Deliver a system prototype.*
  - 6.1 Demonstrate web page design techniques.
  - 6.2 Demonstrate servers-side data access techniques.
  
7. *Give a formal presentation about the proposed system and project schedule.*
  - 7.1 Use computer-aided presentations.
  - 7.2 Do English presentations.



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8. *Document the proposed system.*
  - 8.1 Identify the information to be contained in a System Specification document; their relevance, necessity, and adequacy.
  - 8.2 Deliver both soft and hard copies of the System Specification.





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## **I. Implementation roadmap**

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# PWC CONSULTING

Action Plan		Priority			Responsibility	Projected Timeframe				
Governance		H	M	LT		Year 1	Year 2	Year 3	Year 4	Year 5
1	Establish QF Steering Committee	√			SEM/PSEM					
2	Monitor working groups for various QF and RF initiatives	√			QFSC					
<b>Mechanisms and support</b>										
3	Legislate HKCAA's expanded mandate	√			SEM/PSEM					
4	Conduct strategic and process review of HKCAA	√			HKCAA, QFSC working group					
5	Develop policy and procedures for quality assurance of institutions and courses	√			HKCAA					
6	Adapt mechanisms for industry-specific qualifications			√	MDC facilitated groups					
7	Identify existing and new qualifications		√		Individual institutions					
8	Establish qualification registered assessors			√	MDC, VTC, HKCAA					
9	Define and implement recognition for prior learning			√	MDC, VTC, HKCAA					
10	Negotiate the qualifications in the QF			√	UGC, MDC					
11	Develop and implement Qualifications Register and set up administrative unit	√			EMB					
12	Format and download accredited qualification			√	Individual institutions					
13	Establish Credit Accumulation and Transfer arrangements			√	EMB, UGC, QFSC, MDC					
<b>Marketing and promotion</b>										
14	Plan strategic and targeted promotion activities	√			QFSC working group					
15	Conduct consultation and focus groups with key stakeholders	√			QFSC working group					
16	Conduct roadshow and promotional activities		√		EMB					
17	Conduct on-going			√	EMB					
<b>Funding</b>										
18	Define and establish funding mechanism for Register	√			EMB					

## Priority

High: Commence within 3 – 6 months  
 Medium: Commence within 6 – 12 months  
 Long term: Commence after 12 months

## Responsibility

SEM: Secretary for Education and Manpower  
 PSEM: Permanent Secretary for Education and Manpower  
 QFSC: Qualifications Framework Steering Committee  
 MDC: Manpower Development Committee  
 VTC: Vocational Training Council  
 HKCAA: Hong Kong Council for Academic Accreditation  
 UGC: University Grants Committee  
 EMB: Education and Manpower Bureau



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**J. Summary of key recommendations**

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## SUMMARY OF KEY RECOMMENDATIONS

### *QF architecture and level descriptors*

1. We recommend the QF architecture consists of seven levels and an open-ended Entry level below level 1.
2. The seven levels are described by generic level descriptors, which include recognition of the cognitive skills of critical thinking and problem solving, and the commonly applied skills of communication, information technology and numeracy. These generic level descriptors are used to locate a qualification at one of the seven levels on the framework.
3. The generic level descriptors are set out in terms of:
  - *Knowledge & intellectual skills*, covering the analytical and evaluation skills used to solve problems, and the ability to reflect on practice and plan and manage learning;
  - *Processes*, covering the application of judgement, communication skills and the ability to work with others interactively;
  - The degree of *application, autonomy and accountability* assumed while practicing those skills; and
  - Skill areas of Communication, IT, and Numeracy.

### *Qualification titles*

4. It is recommended that Hong Kong adopt a pragmatic approach and continue with the titles it has in existence, but encourage a migration to title + level + credits.
5. The mechanism for encouraging migration to title + level + credits should be through programme validation and institutional accreditation. Validation and accreditation are conditional on qualifications being framed in terms of the qualifications framework levels and credits.
6. Because qualifications titles cannot be applied too rigidly in many areas of education our recommended titles (in the table below) should not be applied in a mandatory way. Rather,

more emphasis should be given to the level and credits than the title. This will allow modules to exist on the QF, which will normally attract the title of *Certificate in...* The small size of the modules will be denoted by their credit total.

Levels	Title
7	Doctorate
6	Masters, Postgraduate Diplomas/ Certificates
5	Degree
4	Associate Degree, Higher Diploma
3	Diploma
2	Certificate
1	Certificate

### *Governance and administration of the QF*

7. We recommend that a Steering Committee be established to promote and implement the QF. This Committee should adopt the agenda of lifelong learning as its focus whereas the Education Commission's (EC) primary focus should be on early childhood and school education.
8. We recommend a small unit in EMB would carry out the administrative tasks associated with the QF and the Qualifications Register. An alternative is to locate this unit in Hong Kong Council for Academic Accreditation (HKCAA), a step we recommend is reserved for after the successful transition of the HKCAA to its new role.
9. The governance arrangement of a partnership among key stakeholders leaves the executive power and support for implementing the QF with the bodies which coordinate, set policy and provide funding advice in the binary sectors: the UGC and the MDC.
10. We recommend a binary system for the administration of qualifications and quality assurance. The UGC is responsible for degree qualifications in UGC funded institutions and any other degree providers. The MDC is responsible for post-secondary and vocational qualifications. This pragmatic recommendation should not obscure a longer-term aim of integrated arrangements.

11. To provide a policy voice for continuing education, a very substantial part of the post-secondary system, we recommend that the MDC is represented, with equal weight, with members from the vocational education and training, and the continuing education sectors.
12. To ensure the clear flow of policy advice, we recommend that EMB develop a capacity to respond to continuing education in a fashion similar to its response to mainstream education. This may mean a dedicated ‘desk’ for continuing education is formed in the Bureau.

### *Quality assurance framework*

13. The quality assurance arrangements for the universities are determined by their self-accrediting status, where they propose their own qualifications and take responsibility for ensuring the quality of those qualifications. We propose that the university sector continue to evolve its own quality assurance arrangements, noting the Sutherland Report’s recommendation for a consolidation of the TLQPR, RAE and Management Reviews into a single institutional audit.
14. By contrast, the vocational education and training sector, and the evolving associate degrees sector are not self-accrediting. We recommend that the existing mandate of the HKCAA be expanded to take responsibility for ensuring the quality of all sub-degree<sup>13</sup> qualifications. This would include sub-degree qualifications of the Continuing Education departments of the universities.
15. To accommodate this expanded role, HKCAA’s Council will need a different composition, and will need to strengthen its governance role to ensure a business model that balances quality assurance with the costs of that assurance to institutions.
16. We recommend a review of the current HKCAA Ordinance with a view to amending the establishment and functions of the Council, allowing it to carry out the expanded roles and responsibilities.
17. In preparation for its expanded role, we recommend that HKCAA conduct a comprehensive self-review, inviting extensive stakeholder participation.

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<sup>13</sup> Like the term ‘post-secondary’, the term ‘sub-degree’ is not entirely satisfactory, but is used because there is no easily understood equivalent term to cover all education and training qualifications below the degree level, including Entry level qualifications.

18. HKCAA will also need to refine its processes and criteria to manage its widened scope. To this end, we recommend a quality assurance framework with four legs:

- ***Initial registration of an institution***, which gives an institution a licence to practice. This first step in quality assurance must balance the reputation of Hong Kong's education system and the protection of consumers with the need for an open market, which allows new institutions and new offerings in a cost effective way. If the regulation is too heavy it prevents new providers and innovation. Hence institutional registration is a lighter touch than institutional accreditation (step 3 below). The initial licence to practice does not extend to a quality assured recognition to register qualifications on the QF. That is reserved for institutional accreditation (step 3 below), or programme validation if an institution does not submit to institutional accreditation, or fails to pass that test (step 2 below).
- ***Programme or course validation***, which applies when an institution is not ready for a whole institution accreditation. This is an intermediate step, which institutions can minimise or skip if they are ready to advance to institutional accreditation. Because its focus is microscopic (on individual programmes and courses), programme validation is not cost effective, and is viewed as a stage along the way that should be strictly limited.
- ***Whole institutional accreditation***, which is the fulcrum of the quality assurance arrangements. This third step bestows an authority on the institution to accredit its own programmes and qualifications within an agreed scope<sup>14</sup>. Some institutions are already deemed to be self-accrediting and this leg of the quality assurance cycle does not apply to them. (Further details on institutional accreditation follow).
- ***Whole institutional audit***<sup>15</sup>. This is a cyclical event, which should be repeated on a regular basis, the timing of which depends on the maturity of the institution. It also begins with a self-review, and in effect, reconfirms accreditation. For self-accrediting institutions the audit confirms the internal quality assurance processes that underpin their self-

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<sup>14</sup> E.g. an institution can be accredited to offer all courses to any level on the QF in any subject area, or it can be limited to certain areas and levels. So, an institution accredited for Business Studies and related courses up to level 6, would need to seek further accreditation if it was to offer medicine, but not if it was to offer accounting.

<sup>15</sup> The term 'audit' may not be a comfortable term for the institutions, but is used to distinguish the process from institutional review as currently practiced by HKCAA.

accrediting status. Conditions for improvement can be set where standards have slipped.

## *Non-local courses*

19. We recommend the validation of non-local courses based on local benchmarks be pursued and strengthened with added incentives, by providing for validated non-local courses to be registered on the qualifications framework in the same way as mainstream validated programmes (step two of the four staged quality assurance).

## *Professional qualifications*

20. To register professional qualifications on the QF, and to strike credit accumulation and transfer arrangements, will require negotiations with the professional bodies. We recommend the UGC negotiate with the professional bodies that have degree qualifications, and the MDC with the sub-degree qualifications, consistent with the approach of leaving most executive power in the hands of the existing executive bodies.

## *Information requirements for QF*

21. To reflect the situation in Hong Kong, we recommend a separation of the Qualifications Register from the information held on learners. The two items are dealt with separately. Different structures and a different implementation timetable are proposed for each.

## *Qualifications register*

22. The Qualifications Register will operate as an on-line, web-based register or data warehouse of qualifications and units/modules/courses. Institutions can input data directly into the site.
23. While an institution provides data directly on to the web site, the site is secure and requires 'authentication' to gain access. Authentication is provided by the QF administrative unit, which will confirm the institution has accredited status. Self-accrediting institutions like the universities will have direct entry. Non-self-accrediting institutions will need to achieve that status via HKCAA.



24. The Register is not linked to institutional funding. It is primarily an information source for students and, to a lesser extent, employers, professions and institutions. Consequently, the database will link back to the institutions that input the data – to allow students to acquire further information on the cost of the qualification, when it starts, who teaches it etc.
25. The following information would therefore be publicly available:
- **Title** of the qualification
  - **Level** at which the qualification is registered
  - **Outcomes** of the qualification<sup>16</sup>, set out in a ‘purpose statement
  - **Structure** of the qualification
  - **Special notes** for anything that characterises the qualification
  - **Entry requirements**
  - **Credits**
  - **Developer and provider details** (of who has developed the qualification, and the institutions who offer it).

### *Student achievement register*

26. We recommend that Hong Kong should consider the need for a comprehensive Hong Kong-wide student-results database and students’ record of achievement, after it has evaluated the impact of the QF on lifelong learning, and when a demand for such a record becomes evident.

### *Criteria and processes for recognising prior learning*

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<sup>16</sup> And, where there are stand-alone units/modules/courses, the outcomes for those components

27. An important principle of the QF is that skills, knowledge and understanding gained outside formal education or training will be recognised.
- Credits should be awarded when achievements meet outcome standards, regardless of the source of evidence of those achievements;
  - People who already have skills and knowledge can be assessed immediately by: presenting evidence of prior performance, or completing assessment tasks;
  - Course completion is not required;
  - Many workers can be assessed by completing regular on-job tasks; and
  - Accredited providers and registered workplace assessors both assess prior learning against the same standards that are used within education and training programmes.

### *Articulation*

28. Cross-sectoral qualification linkages help achieve a more efficient, open, integrated and relevant education system that can meet rapidly changing needs and priorities for knowledge and skill development, including lifelong learning. This is particularly important if Hong Kong is to realise its post-secondary participation targets.
29. Articulation arrangements are an institutional responsibility. We include some good practice guidelines. Final responsibility for linkages into the universities should be left to the universities, and this principle should apply to any vertical movement into another more advanced institution.

### *Credit accumulation and transfer*

30. There is very intense competition for a restricted number of publicly funded places. Institutions manage that situation by entry barriers. In this situation, institutions have few incentives to promote credit accumulation and transfer. CAT can only take root in supportive conditions.

31. To support credit accumulation and transfer, we recommend that the UGC and the MDC should consider using a criterion in their advice to Government on the funding of the institutions under their purview that reflects an evidence based judgement on the institution's active participation and implementation of CAT arrangements.
32. We also recommend further development of the model established by the Polytechnic University to provide an alternative route for adults to receive higher education within a consortium of providers<sup>17</sup>. This, or a similar system, can act as a credit bank for post-secondary education and training in Hong Kong.

### *Marketing and promotion*

33. An important key to the success of the QF is an active and well-resourced marketing strategy. There should be a leader for the strategy, with defined responsibilities, and the resources to plan and drive it over a period of years. Resources include staff, and sufficient finances to develop material for the various target audiences, purchase media space or time, conduct workshops, provide copy to journalists, and so on.
34. We recommend that the proposed Qualifications Framework Steering Committee own and direct this promotion strategy, and monitor its implementation.
35. The marketing leader should develop a budget for a three-year strategy to support the implementation of the QF.
36. We recommend that funding of promotion could be accepted as a responsibility of the Government, which wishes to promote lifelong learning as a platform for the knowledge economy and 'Asia's World City'.
37. We recommend a two-pronged approach to promotion and marketing: concentrated attention to the vocational and continuing education sectors; and a more general and lower intensity campaign to introduce and spread the concept, if not the details, to Hong Kong society at large.

### *Implementation roadmap*

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<sup>17</sup> The CCEI Consortium is a network formed by six institutions: PolyU, Caritas Adult and Higher Education Service, Hong Kong College of Technology, the Hong Kong Federation of Trade Union's Spare Time Study Centre, Hong Kong Productivity Council and Macau Polytechnic.

38. We recommend a long-term approach to building the infrastructure for QF and RF, and putting in place the necessary measures and mechanisms.
39. An implementation roadmap in Appendix I sets out the key action tasks, prioritised under the headings of governance, mechanisms and support around the QF and RF, marketing and promotion, and associated funding arrangements.

*Ways to maintain a register of experts to act as assessors, moderators or verifiers*

40. For pragmatic reasons, the wide-scale introduction of licensed assessors has not been recommended as part of the starting menu of QF activities for Hong Kong. Evidence from overseas shows that initiating too many initiatives simultaneously stretches the capacity of the QF and damages its credibility.
41. We recommend that respective industry committees should consider developing a mechanism to recognise prior learning when defining the entry qualifications and learning outcome for each of the qualification levels. Timing for implementation of the mechanism will depend on progress made by the respective industry committees.
42. We recommend setting up formal assessment centres, as in Singapore, where employees can present themselves for assessment. The Industrial Training Centres of the VTC are obvious candidates to provide such services. This role can also be carried out by other bodies which are accredited by the HKCAA.
43. We recommend an eventual register of accredited assessors be established and held centrally, by the HKCAA or by the VTC. Alternatively, there could be a number of registers held by institutions or assessment centres. In either approach, the registration information should be able to be accessible to institutions, the public and employers.
44. The assessment outcome standards of other countries can be imported and modified to verify workplace assessors. The VTC, and other appropriate bodies, could be accredited to train and graduate workplace assessors who can operate in non-institutional settings, or pick up this responsibility within a future, more comprehensive self-accredited status.

## *Costs associated with implementing a QF*

45. The new cost for currently operating institutions is qualifications registration. A small fee is recommended to cover the recurrent costs of the web-based Register, and administrative—staff who will maintain it. A fixed annual registration fee can be charged to institutions that place their qualifications on the Register. Alternatively, the annual registration fee can be attached to the number of qualifications or students enrolled in qualifications.

46. For institutions there are costs also in:

- Reconsidering their present curriculum for qualifications and for component units/modules/courses, and spelling out the outcome standards that underpin them;
- Formatting the data necessary for the Qualifications Register;
- Keeping the information up-to-date;
- Meeting the quality assurance requirements;
- Negotiating and entering into horizontal and vertical credit accumulation and transfer arrangements; and
- Keeping records of CAT students and applying for CAT funding.

47. For the Government there are costs in:

- Developing the Qualifications Register;
- Marketing and promoting the QF;
- Contributing to funding a CAT student scheme (if CAT students are funded as new entrants); and
- Maintaining the secretarial services for the QF Steering Committee.

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**K. Glossary and abbreviations**

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## GLOSSARY

**Accreditation** is a status granted to an institution that reaches an acceptable level of quality in its service provision. Quality assurance bodies set out accreditation standards, typically covering the governance of an institution and its management, teaching, research and service to the community.

**Articulation** refers to any formal links established between a qualification (or parts of a qualification) with another qualification. Examples of articulation arrangements are where one qualification acts as a pre-requisite for another more advanced qualification, or where a course/unit/module is granted advanced standing for another qualification. Articulation also refers to qualifications pathways, where a set of qualifications is mapped to show their relationships.

**Assessment criteria** refer to the criteria set for assessing what a learner knows and is able to do, as a result of their learning. The criteria establish clear and unambiguous standards for teachers and assessors who are assessing evidence of a learner's achievements. The criteria enable them to make clear and defensible decisions. The generic level descriptors can be used as a guide to help set the assessment criteria, but they are not the same as assessment criteria.

**Classification system** acts as an index to the Qualifications Register by grouping related education subject areas or disciplines together. The classifications give order to the Register and guide the public on how to search for information. E.g. *economics* is found under to Social Sciences, and not simultaneously under Business, Social Sciences, or Management.

**Credit accumulation and transfer system (CATS)** enables complete or partial recognition of credits from qualifications, thus allowing students to carry their earned credits with them when they move on to other qualifications and/or other institutions.

**Credits** are points assigned to each qualification. One credit equals 10 hours of notional study. The study is called notional because it is based on the amount of time an *average* student would take to acquire the outcomes. Credit can be granted in different forms, including specified credit, unspecified credit and

block credit. The form of credit granted depends on the circumstances and context.

**Generic level descriptors** describe in broad terms the seven levels of the qualifications framework. The descriptors help to locate a qualification at a specific level on the framework.

The descriptors include the cognitive skills of critical thinking and problem solving, and the commonly applied ‘core’ skills of communication, information technology and numeracy. They also take into account the practical application of knowledge and skills, and the degree of autonomy required from a person applying them. However, qualifications at the same level on the framework are not equivalent in their content, and the notion of equivalence should be avoided.

**Institutional accreditation** is a status bestowed on an institution when the institution’s management of the quality of its services is such that it has the authority to self-accredit (quality assure) its own programmes and qualifications. This status is normally applied within an agreed scope, which refers to the level of qualifications that the institution can self-accredit (e.g. up to level 5 on the Qualifications Framework) and the subject areas it accredits (e.g. up to level 5 in science and IT, and level 3 in health). Universities are normally self-accrediting in most areas to all levels, but not all of them can teach medicine or law for example.

**Institutional audit** is a periodic or cyclical event, which confirms the internal quality assurance processes of an institution with a self-accrediting status continue to be sound. It begins with the institution conducting a self-review, which is then tested by external auditors. The auditing is repeated on a regular basis, the timing of which depends on the maturity of the institution.

**Institutional registration** gives an institution an initial licence to practice. It does not extend to a quality assured recognition to register on the QF which is reserved for institutional accreditation or programme validation.

**IT Prototype** is the modelling and testing of the Qualifications Framework to demonstrate its application in the Information Technology industry. The prototype is also intended to serve as a reference for QF developments in other industries and professions.



**Learning outcome** is a statement of what a learner knows, understands and/or can demonstrate as a result of their learning. It is one half of the outcome standards (see below) along with the assessment criteria.

**Licensed assessors** are qualified and trained assessors, who can verify a person's experience, and their knowledge and skills. Licensed assessors can operate in the workplace or in other non-institutional settings. Their focus is assessment rather than teaching. A register is normally established to record who is licensed to assess.

**Outcome standards** are the specified learning outcomes and assessment criteria, which together establish the minimum requirements for the award of credit. They are distinct from the aims of learning by their focus on the achievements of the learner, rather than the intentions of the teacher.

**Post-secondary** refers to qualifications that can be attained by persons who have left school (post the school), but covers attainments at levels equivalent to Secondary 3 and above, and in the case of some Entry level courses, to attainments below Secondary 3.

**Programme or course validation** is the evaluation of the programmes or courses offered by an institution that is not self-accrediting. It tests the relevance of the curriculum and supporting teaching services to ensure that they meet an acceptable standard.

**Recognition of prior learning** involves recognising the skills, knowledge and understanding gained outside formal education or training institutions, e.g. in the workplace, or the home. The learning that is recognised can receive credits and count towards a formal qualification.

**Qualifications Framework** is an architecture, or skeletal structure, to order and support qualifications, and promote lifelong learning. The QF is intended for all post-secondary qualifications, including professional qualifications.

**Qualifications Framework Steering Committee** is a governing body that oversees the policy and implementation of the Qualifications Framework. It also has a wider agenda to provide

advice on the policy direction for lifelong learning in Hong Kong, and steer and promote the implementation of an articulated post-secondary system. It is built around three core partners: EMB, UGC and the Manpower Development Committee (MDC). Other prominent education bodies will also be members, along with representatives of employers, unions, and consortia of professional bodies.

**Qualification titles** are the standardised nomenclature for the qualifications offered by the institutions. E.g. a diploma refers to a qualification at level 3 of the Qualifications Framework. However, many current qualifications do not have consistent titles, and not all qualifications can fit into a standardised nomenclature. Hence, a qualification should be described by its title + level + credit total.

**Qualifications register** is a secure, on-line, web-based register or data warehouse of qualifications and units/modules/courses that have been quality assured, either by an independent accrediting body or by a self-accrediting institution. Institutions that have a quality assured status (either externally accredited or self-accrediting) can input data directly into the site.

**Quality assurance framework** refers to the accompanying quality assurance systems and regulations that support the QF.

**Student achievement register** is a comprehensive student-results database. It does not exist at present in Hong Kong, but may emerge in the future.

**Student record of achievement** is a comprehensive transcript of all the education achievements of a learner over their educational lifetime. It contains school, institutional and recognised workplace or other learning achievements, and acts as a lifelong learning passport. Many countries are introducing such integrated records, but it requires a centralised student achievement register, which does not exist in Hong Kong. Instead, Hong Kong will continue in the medium term to have a variety of individual school and institutional transcripts.

**Sub-degree qualifications** refer to post-secondary qualifications below degree level.

## ABBREVIATIONS

<b>CATS</b>	Credit accumulation and transfer system
<b>EMB</b>	Education and Manpower Bureau
<b>ERB</b>	Employees Retraining Board
<b>HKCAA</b>	Hong Kong Council for Academic Accreditation
<b>MDC</b>	Manpower Development Committee
<b>QF</b>	Qualifications Framework
<b>QFSC</b>	Qualifications Framework Steering Committee
<b>UGC</b>	University Grants Committee
<b>VTC</b>	Vocational Training Council