



香港建築師學會

The Hong Kong Institute of Architects

# **The Hong Kong Institute of Architects**

## **BIM ACCREDITATION PROGRAMME APPLICATION HANDBOOK**

1<sup>st</sup> version: August 2019

2<sup>nd</sup> version: October 2020

**October 2020**

## **HKIA BIM Accreditation Programme for HKIA List of BIM Pro & BIM Co Application Handbook**

### **CONTENTS**

1.0	Introduction	
	1.1 HKIA BIM Accreditation Programme	2
	1.2 Objectives	2
	1.3 Core Competencies of BIM Pro (HKIA) / BIM Pro	2
	1.4 Core Competencies of BIM Co (HKIA) / BIM Co	2
2.0	Eligibility	
	2.1 BIM Pro (HKIA) / BIM Pro	3
	2.2 BIM Co (HKIA) / BIM Co	4
3.0	Review of Interview / Assessment Results and Handling of Appeal	5
4.0	Renewal of Registration	6
5.0	Streamline Procedure for assessment and renewal of BIM Pro (HKIA) / BIM Pro as CIC – Certified BIM Manager	6

### **APPENDICES**

Appendix A	Application Form	
Appendix B	Detailed List of Core Competencies of BIM Pro (HKIA) / BIM Pro	
Appendix C	Detailed List of Core Competencies of BIM Co (HKIA) / BIM Co	

## **1.0 Introduction**

### **1.1 HKIA BIM Accreditation Programme**

It is an accreditation system through which applicants may qualify for admission in the List of BIM Pro or BIM Co, to build up capacity and capability of HKIA members for adopting BIM in building projects, and to suit the increasing demand of BIM personnel as project BIM Team Leader and BIM Coordinator per BIM Team Structure requirement in the TC(W) No.09/2019 issued by Development Bureau.

### **1.2 Objectives**

The objectives of accreditation are to ensure that the candidates have acquired the recognised training and prescribed local practical experience, and have attained a level of knowledge in professional practice acceptable to the HKIA for admission in the List of BIM Pro or BIM Co.

### **1.3 Core Competencies of BIM Pro (HKIA) / BIM Pro**

The Core Competencies of a BIM Pro (HKIA) / BIM Pro are:

- (1) With knowledge and ability as BIM Team Leader in Architectural Practice to implement BIM in various project stages, with reference to Appendix B
- (2) BIM Initiation (Ability to describe BIM concept definitions and scope, BIM standards and guidelines in the Hong Kong and global contexts)
- (3) BIM Software and Technologies (Ability to explain BIM software and the modelling process, and current and upcoming technologies).
- (4) BIM Uses and Processes (Ability to understand BIM uses and BIM software applications, and to design and manage the overall process of a BIM project).
- (5) Digital Information Management, Collaboration and Integration (Ability to plan and execute the setting-up of a common data environment and data quality control system for effective use and sharing of digital information in a BIM project).
- (6) Commercial and Contractual Aspects (Ability to describe commercial and financial issues of BIM as well as BIM-related contractual issues).
- (7) Communication Skills (Ability to apply effective interpersonal and communication skills in a variety of public and interpersonal settings, such as presentations, meetings, report / training material writing, etc.)

### **1.4 Core Competencies of BIM Co (HKIA) / BIM Co**

The Core Competencies of a BIM Co (HKIA) / BIM Co are:

- (1) With Architectural Discipline professional knowledge and ability as BIM Coordinator in Architectural Practice in various project stages, with reference to Appendix C
- (2) BIM Uses, Processes and Operational knowledges
- (3) Cross discipline knowledge for project collaboration
- (4) BIM Data Exchange knowledge

## 2.0 Eligibility

### 2.1 BIM Pro (HKIA) / BIM Pro

	BIM Pro (HKIA) / BIM Pro
<b>Qualifications</b>	BIM Pro (HKIA): Fellow Member or Full Member of HKIA;  BIM Pro: Graduate Member of HKIA with more than <u>FIVE YEARS</u> of relevant post-degree experience in architecture
<b>Recognized Practical BIM Experience</b>	Candidates should have no less than <u>TWO YEARS</u> BIM working experience in the past five years (including at least six months in Hong Kong) in the execution and management of BIM projects, such as in development of BIM standards, planning, design, contract administration etc. plus execution of BIM projects, counting up to the application form submission date.
<b>BIM Training</b>	Successful completion of BIM Pro Course organized by HKIA and BIM Manager Course accredited by CIC.
<b>Submission of Supporting Document</b>	<ol style="list-style-type: none"><li>1. Completed Application Form (App A);</li><li>2. Reasonable proof of successful completion of BIM training course(s);</li><li>3. Portfolio of BIM working experience with statement of between 1,500 and 2,500 words on all core competencies, and including key project information, the applicant's role and BIM tasks accomplished. Each BIM project experience to be certified by<ol style="list-style-type: none"><li>(i) Authorized Signature of Employer which is a HKIA Registered Practice; OR</li><li>(ii) Authorized Signature of Employer which is not a HKIA Registered Practice AND HKIA Fellow / Full Member who is a project participant</li></ol></li><li>4. Curriculum Vitae</li></ol>
<b>Acceptance Requirements</b>	<ol style="list-style-type: none"><li>1. Submitted document accepted by the Vetting Panel ; and</li><li>2. Passing a Panel Interview arranged by HKIA to assess whether the applicant possesses the core competencies as stated in 1.3 and required practical experience.</li></ol>
<b>Application Fee</b>	\$500  Note: Application fee of CIC - Certified BIM Manager as BIM Pro (HKIA) / BIM Pro will be waived up to 31 Jul 2021

## 2.2 BIM Co (HKIA) / BIM Co

	BIM Co (HKIA) / BIM Co
<b>Qualifications</b>	<p>BIM Co (HKIA): Fellow Member or Full Member of HKIA;</p> <p>BIM Co: Graduate Member or Affiliate Member of HKIA</p>
<b>Recognized Practical BIM Experience</b>	Candidates should have no less than <u>ONE YEAR</u> BIM working experience in the past five years (including at least six months in Hong Kong) in master planning, building design, project co-ordination & administration etc. plus operation of BIM system, counting up to the application form submission date.
<b>BIM Training</b>	<p>Successful completion of BIM training course(s), including in-house training, short-term course, degree course, and course(s) organized or taught by a BIM Pro (HKIA) / BIM Pro, which is accepted by HKIA.</p> <p>Note:</p> <p>1. HKIA Members who can demonstrate extensive BIM working experience/knowledge during interview with reference to core competencies in 1.4 would be granted exemption for document proof of BIM Training attendance</p>
<b>Submission of Supporting Document</b>	<ol style="list-style-type: none"> <li>1. Completed Application Form (App A);</li> <li>2. Reasonable proof of successful completion of BIM training course(s);</li> <li>3. Portfolio of BIM working experience with statement of between 500 – 1,000 words on all core competencies, and including key project information, the applicant's role and BIM tasks accomplished. Each BIM project experience to be certified by               <ol style="list-style-type: none"> <li>(i) Authorized Signature of Employer which is a HKIA Registered Practice; OR</li> <li>(ii) Authorized Signature of Employer which is not a HKIA Registered Practice AND HKIA Fellow / Full Member who is a project participant</li> </ol> </li> <li>4. Curriculum Vitae.</li> </ol>
<b>Acceptance Requirements</b>	<ol style="list-style-type: none"> <li>1. Submitted document accepted by the Vetting Panel ; and</li> <li>2. Passing a Panel Interview arranged by HKIA to assess whether the applicant possesses the core competencies as stated in 1.4 and required practical experience.</li> </ol> <p>[ (2) is required if reasonable proof for successful completion of BIM training course(s) accepted by HKIA could <u>not</u> be provided. ]</p>
<b>Application Fee</b>	\$300

### **3.0 Review of Interview / Assessment Results and Handling of Appeal**

A candidate who fails Interview/Assessment may apply in writing to BIM Accreditation Committee (BAC) for a review of his/her result within 14 calendar days from the date of announcement of results (but excluding the day of announcement) with an application fee of \$300 giving the brief grounds for review for justification. Late appeals will not be considered.

The grounds for such application shall be confined to material administrative error in the Assessment process only.

Disagreement with the decision of the assessors, illness or medical-related circumstances shall not be accepted as grounds for review. The applicant in his/her application shall demonstrate to the satisfaction of BAC that there is sufficient evidence to support such an application before it can be accepted.

Appeal result normally will be released 4 weeks after the close of appeal application period. Successful appeal will be refundable in full.

#### **4.0 Renewal of Registration**

- (i) HKIA Board of Practice will maintain a Register for BIM Pro and BIM Co, and the Register can be reviewed by the general public in HKIA Website.
- (ii) The HKIA member will continue maintain in the list of BIM Pro or BIM Co after annual renewal of HKIA membership with 12 hours of CPD related to BIM. Additional annual membership fee for BIM Pro and BIM Co is not required.

#### **5.0 Streamline procedure for assessment and renewal of BIM Pro (HKIA) / BIM Pro as CIC - Certified BIM Manager**

Applicants of BIM Pro (HKIA) / BIM Pro submitted before 31 Jul 2021 will be eligible to apply for CIC – Certified BIM Manager under the following streamline assessment procedure and renewal procedure:

- (i) Submitted BIM Pro (HKIA) / BIM Pro application form and portfolio by members will be copied to CIC for streamline assessment upon accepted as BIM Pro (HKIA) / BIM Pro. Separate application submission to CIC for CIC – Certified BIM Manager by members will not be required. Assessment procedure would be subject to CIC. BIM Pro (HKIA) / BIM Pro will be notified by CIC directly upon approval by Building Information Modelling Certification and Accreditation Board (BIMCAB) to be CIC - Certified BIM Manager.
- (ii) The submission of application fee of BIM Pro (HKIA) / BIM Pro as CIC-Certified BIM Managers will be waived.

During renewal of HKIA membership at the end of every year, BIM Pro (HKIA) / BIM Pro who fulfill 12 hours of CPD related to BIM may be eligible to renew CIC – Certified BIM Manager. There is no streamline procedure for renewal of BIM Pro (HKIA) / BIM Pro as CIC-Certified BIM Manager. The CIC-Certified BIM Manager shall refer to CIC's guides on renewal application.

- (iii) An applicant of BIM Pro (HKIA) / BIM Pro for CIC-Certified BIM Managers, including renewal/reinstatement of registration, who is dissatisfied with a decision of BIMCAB shall follow CIC procedure for appeal.

Streamline procedure for assessment of BIM Pro (HKIA) / BIM Pro as CIC – Certified BIM Manager after 31 Jul 2021 will be announced in due course.



## Application for Listing under HKIA BIM Accreditation Programme

Please read the Notes to Applicant in Part H before completing this form.

### A. APPLICATION TYPE

Please tick as appropriate :

BIM Pro (HKIA) / BIM Pro

-  I confirm to apply for Construction Industry Council - Certified BIM Manager.

BIM Co (HKIA) / BIM Co

### B. APPLICANT PARTICULARS

Name : (English) \_\_\_\_\_  
Surname Given Name

(Chinese) (if any) \_\_\_\_\_

HKIA Membership No.: \_\_\_\_\_ Gender : \_\_\_\_\_

HKIA Membership Category :  Fellow  
(Please tick as appropriate.)  Member  
 Graduate Member  
 Affiliate

Office Name : \_\_\_\_\_

Office Address : \_\_\_\_\_  
\_\_\_\_\_

Office Tel. : \_\_\_\_\_ Mobile : \_\_\_\_\_ Fax : \_\_\_\_\_

Email Address : \_\_\_\_\_



## C. BIM WORKING EXPERIENCE

Please present your working experience in chronological order starting from the latest practical experience. Separate sheet may be attached to the application form if space is insufficient.

<b>1.</b>	<b>BIM</b>										
Project Name :		_____									
Your Position :		_____									
Project Duration involved :		dd	mm	yyyy	<b>to</b>	dd	mm	yyyy	(	mths	days)
Duration involved in Hong Kong :		dd	mm	yyyy	<b>to</b>	dd	mm	yyyy	(	mths	days)
Certifier Name (Employer) :		_____									
		HKIA Registered Practice <input type="checkbox"/> Y <input type="checkbox"/> N <i>(Please tick as appropriate.)</i>									
Certifier Signature :		_____									
		Date :									
Certifier Name (HKIA Member) :		_____									
		<input type="checkbox"/> Fellow <input type="checkbox"/> Member <i>(Please tick as appropriate.)</i>									
HKIA Membership No. :		_____									
Certifier Signature :		_____									
		Date :									

<b>2.</b>	<b>BIM</b>										
Project Name :		_____									
Your Position :		_____									
Project Duration involved :		dd	mm	yyyy	<b>to</b>	dd	mm	yyyy	(	mths	days)
Duration involved in Hong Kong :		dd	mm	yyyy	<b>to</b>	dd	mm	yyyy	(	mths	days)
Certifier Name (Employer) :		_____									
		HKIA Registered Practice <input type="checkbox"/> Y <input type="checkbox"/> N <i>(Please tick as appropriate.)</i>									
Certifier Signature :		_____									
		Date :									
Certifier Name (HKIA Member) :		_____									
		<input type="checkbox"/> Fellow <input type="checkbox"/> Member <i>(Please tick as appropriate.)</i>									
HKIA Membership No. :		_____									
Certifier Signature :		_____									
		Date :									

### C. BIM WORKING EXPERIENCE

Please present your working experience in chronological order starting from the latest practical experience.  
Separate sheet may be attached to the application form if space is insufficient.

3. BIM							
Project Name :	_____						
Your Position :	_____						
Project Duration involved :	dd	mm	yyyy	to	dd	mm	yyyy ( mths days)
Duration involved in Hong Kong :	dd	mm	yyyy	to	dd	mm	yyyy ( mths days)
Certifier Name (Employer) :	_____						
	HKIA Registered Practice <input type="checkbox"/> Y <input type="checkbox"/> N (Please tick as appropriate.)						
Certifier Signature :	_____						Date :
Certifier Name (HKIA Member) :	_____						
	<input type="checkbox"/> Fellow <input type="checkbox"/> Member (Please tick as appropriate.)						
	HKIA Membership No. : _____						
Certifier Signature :	_____						Date :

4. BIM							
Project Name :	_____						
Your Position :	_____						
Project Duration involved :	dd	mm	yyyy	to	dd	mm	yyyy ( mths days)
Duration involved in Hong Kong :	dd	mm	yyyy	to	dd	mm	yyyy ( mths days)
Certifier Name (Employer) :	_____						
	HKIA Registered Practice <input type="checkbox"/> Y <input type="checkbox"/> N (Please tick as appropriate.)						
Certifier Signature :	_____						Date :
Certifier Name (HKIA Member) :	_____						
	<input type="checkbox"/> Fellow <input type="checkbox"/> Member (Please tick as appropriate.)						
	HKIA Membership No. : _____						
Certifier Signature :	_____						Date :

Total BIM Project Duration involved:	_____ mths	_____ days
Total BIM Project Duration involved in Hong Kong :	_____ mths	_____ days

## D. BIM TRAINING

*Please state your BIM training in chronological order starting from the latest training.*

No.	Name of University / Professional Body / Registration Body / Course Provider	Programme Period (dd.mm.yyyy – dd.mm.yyyy) and contact hours	Mode of Study (Part-time, Full-time, Distance Learning)	Programme Title <i>(in full)</i> / Professional Qualification
1.				
2.				
3.				
4.				
5.				
6.				

## E. SUPPORTING DOCUMENTS

Please check your documents to be submitted to support your application.

- Completed Application Form
- Portfolio of BIM working experience including key project information, applicant's role and BIM tasks accomplished
- Curriculum vitae
- Reasonable proof of successful completion of BIM training course(s)
- Statement on core competencies
- Cheque for application fee OR \*Proof of CIC-Certified BIM Manager  
(\*applicable to applicants of BIM Pro(HKIA) / BIM Pro only)

## F. DECLARATIONS BY APPLICANT

1. I (name in full) \_\_\_\_\_ being an applicant for listing under HKIA BIM Accreditation Programme by The Hong Kong Institute of Architects do hereby DECLARE that the above is a TRUE STATEMENT OF ALL MY PARTICULARS. I also hereby authorize The Hong Kong Institute of Architects to make any reasonable enquiries into the information given above.
2. I declare that the portfolio I submit is a true record of my own experience.
3. My personal particulars can be released to third parties for confirmation of my qualification and experience.
4. I have read the listing requirements and procedures detailed in the HKIA BIM Accreditation Programme Application Handbook and relevant circulars. I shall abide by the rules therein.
5. I hereby authorize The Hong Kong Institute of Architects to submit a copy of this application form and portfolio to Construction Industry Council for streamline processing of application for CIC - Certified BIM Manager upon accepted as BIM Pro (HKIA) / BIM Pro. (not applicable to BIM Co (HKIA) / BIM Co applicants)

---

Signature of Applicant

---

Date

## G. OFFICIAL USE ONLY

Application Process Check			
Event	By	Signature	Date
Application received			
Application fee received			
Application documents checked			
Membership no. checked			
Application result <input type="checkbox"/> Accepted <input type="checkbox"/> Rejected			
Applicant notified			

## H. NOTES TO APPLICANT

### 1. Eligibility

#### 1.1 BIM Pro (HKIA) / BIM Pro

	BIM Pro (HKIA) / BIM Pro
<b>Qualifications</b>	<p>BIM Pro (HKIA): Fellow Member or Full Member of HKIA;</p> <p>BIM Pro: Graduate Member of HKIA with more than <u>FIVE YEARS</u> of relevant post-degree experience in architecture</p>
<b>Recognized Practical BIM Experience</b>	Candidates should have no less than <u>TWO YEARS</u> BIM working experience in the past five years (including at least six months in Hong Kong) in the execution and management of BIM projects, such as in development of BIM standards, planning, design, contract administration etc. plus execution of BIM projects, counting up to the application form submission date.
<b>BIM Training</b>	Successful completion of BIM Pro Course organized by HKIA and BIM Manager Course accredited by CIC..
<b>Submission of Supporting Document</b>	<ol style="list-style-type: none"> <li>1. Completed Application Form (App A);</li> <li>2. Reasonable proof of successful completion of BIM training course(s);</li> <li>3. Portfolio of BIM working experience with statement of between 1,500 and 2,500 words on all core competencies, and including key project information, the applicant's role and BIM tasks accomplished. Each BIM project experience to be certified by               <ol style="list-style-type: none"> <li>(i) Authorized Signature of Employer which is a HKIA Registered Practice; OR</li> <li>(ii) Authorized Signature of Employer which is not a HKIA Registered Practice AND HKIA Fellow / Full Member who is a project participant</li> </ol> </li> <li>4. Curriculum Vitae</li> </ol>
<b>Acceptance Requirements</b>	<ol style="list-style-type: none"> <li>1. Submitted document accepted by the Vetting Panel ; and</li> <li>2. Passing a Panel Interview arranged by HKIA to assess whether the applicant possesses the core competencies as stated in 1.3 and required practical experience.</li> </ol>
<b>Application Fee</b>	<p>\$500</p> <p>Note: Application fee of CIC - Certified BIM Manager as BIM Pro (HKIA) / BIM Pro will be waived up to 31 Jul 2021</p>

## 1.2 BIM Co (HKIA) / BIM Co

	BIM Co (HKIA) / BIM Co
<b>Qualifications</b>	<p>BIM Co (HKIA): Fellow Member or Full Member of HKIA;</p> <p>BIM Co: Graduate Member or Affiliate Member of HKIA</p>
<b>Recognized Practical BIM Experience</b>	<p>Candidates should have no less than <u>ONE YEAR</u> BIM working experience in the past five years (including at least six months in Hong Kong) in master planning, building design, project co-ordination &amp; administration etc. plus operation of BIM system, counting up to the application form submission date.</p>
<b>BIM Training</b>	<p>Successful completion of BIM training course(s), including in-house training, short-term course, degree course, and course(s) organized or taught by a BIM Pro (HKIA) / BIM Pro, which is accepted by HKIA.</p> <p>Note:</p> <ol style="list-style-type: none"> <li>1. HKIA Members who can demonstrate extensive BIM working experience/knowledge during interview with reference to core competencies in 1.4 would be granted exemption for document proof of BIM Training attendance</li> </ol>
<b>Submission of Supporting Document</b>	<ol style="list-style-type: none"> <li>1. Completed Application Form (App A);</li> <li>2. Reasonable proof of successful completion of BIM training course(s);</li> <li>3. Portfolio of BIM working experience with statement of between 500 – 1,000 words on all core competencies, and including key project information, the applicant's role and BIM tasks accomplished. Each BIM project experience to be certified by               <ol style="list-style-type: none"> <li>(i) Authorized Signature of Employer which is a HKIA Registered Practice; OR</li> <li>(ii) Authorized Signature of Employer which is not a HKIA Registered Practice AND HKIA Fellow / Full Member who is a project participant</li> </ol> </li> <li>4. Curriculum Vitae.</li> </ol>
<b>Acceptance Requirements</b>	<ol style="list-style-type: none"> <li>1. Submitted document accepted by the Vetting Panel ; and</li> <li>2. Passing a Panel Interview arranged by HKIA to assess whether the applicant possesses the core competencies as stated in 1.4 and required practical experience.</li> </ol> <p>[ (2) is required if reasonable proof for successful completion of BIM training course(s) accepted by HKIA could <u>not</u> be provided. ]</p>
<b>Application Fee</b>	\$300

## **2. Review of Interview / Assessment Results and Handling of Appeal**

A candidate who fails Interview/Assessment may apply in writing to BIM Accreditation Committee (BAC) for a review of his/her result within 14 calendar days from the date of announcement of results (but excluding the day of announcement) with an application fee of \$300 giving the brief grounds for review for justification. Late appeals will not be considered.

The grounds for such application shall be confined to material administrative error in the Assessment process only.

Disagreement with the decision of the assessors, illness or medical-related circumstances shall not be accepted as grounds for review. The applicant in his/her application shall demonstrate to the satisfaction of BAC that there is sufficient evidence to support such an application before it can be accepted.

Appeal result normally will be released 4 weeks after the close of appeal application period. Successful appeal will be refundable in full.



## **Appendix B - Detailed List of Core Competencies of BIM Pro (HKIA) / BIM Pro**

Minimum Level of Competency:

Level 1 (L1) : General appreciation of the subject and an understanding of how the subject may affect, or integrate with other subjects.

Level 2 (L2): Knowledge and understanding of the subject and its application.

Level 3 (L3): Ability to perform the subject independently or under supervision.

Level 4 (L4): Ability to perform the subject without supervision and advise others.

-	Core Subject	L1	L2	L3	L4
1. BIM Initiation	<i>1.1. BIM Concept</i>				
	1.1.1 Promote architectural excellence through adoption of BIM				✓
	1.1.2 BIM definitions and terminology	✓			
	1.1.3 The difference between 2D CAD, 3D CAD and BIM	✓			
	1.1.4 Concept of BIM as whole project & whole estate perspective	✓			
	1.1.5 Value and benefits of adopting BIM	✓			
	1.1.6 Value of BIM for AM & FM	✓			
	1.1.7 Collaborative working in BIM	✓			
	1.1.8 Limitation of BIM	✓			
	1.1.9 Challenges within existing working practices & how BIM addresses these		✓		
	1.1.10 How BIM affect the current practice in AECO industry		✓		
	1.1.11 Uphold Architects' leading role in AEC industry				✓
	<i>1.2. Local &amp; Global Contexts, BIM standards and guidelines</i>				
	1.2.1 Local BIM standards & resources		✓		
	1.2.1.1 CIC BIM Standards		✓		
	1.2.1.2 Government BIM standards & resources		✓		
	1.2.2 Global context in BIM development	✓			
	1.2.3 Global BIM standards & resources		✓		
	1.2.3.1 ISO 19650		✓		
	1.2.3.2 BIM FORUM LOD Specification		✓		
	1.2.3.3 OpenBIM		✓		
	1.2.3.4 ISO 16739-1:2018: Industry Foundation Class IFC		✓		

-	Core Subject	L1	L2	L3	L4
2. BIM Software and Technologies	<i>2.1. BIM Software</i>				
	2.1.1 Overview of industry leading BIM software/applications		✓		
	2.1.2 Characteristic, strength and limitation of industry leading BIM software		✓		
	2.1.3 Versions and file formats		✓		
	2.1.4 Interoperability across industry leading BIM software * to carry out open BIM workflow where necessary and to encourage open BIM inter-operability workflow where appropriate				✓
	<i>2.2. Technologies</i>				
	2.2.1 Cloud platform		✓		
	2.2.2 Laser scanning		✓		
	2.2.3 Photogrammetry		✓		
	2.2.4 GIS		✓		
	2.2.5 Application of smart devices		✓		
	2.2.6 VR/AR/MR		✓		
	2.2.7 VDC	✓			
	2.2.8 RFID		✓		
	2.2.9 Gaming technology in BIM	✓			
	2.2.10 Robotics	✓			
	2.2.11 Automation	✓			
	2.2.12 API	✓			
	2.2.13 MiC		✓		
	2.2.14 Indoor positioning	✓			
2.2.15 Upcoming Trend	✓				

-	Core Subject	L1	L2	L3	L4
3. BIM Uses and Processes	<i>3.1. – Client BIM Strategic Stage</i>				
	3.1.1 BIM strategy, BIM uses, BIM processes	✓			
	3.1.2 Key personnel in relation to BIM				✓
	3.1.3 Determine the info management & CDE strategy				✓
	3.1.4 Determine the BIM/AIM/GIS strategy				✓
	3.1.5 Determine level of development in the context of graphics and information				✓
	3.1.6 Determine level of integration of digital information into asset & facility management				✓
	3.1.7 Case study		✓		
	<i>3.2. – Client Pre-tender Project Stage</i>				
	3.2.1 Determine & oversee the development of Client Information Model (CIM)				✓
	3.2.1.1 Organisational Information Requirements (OIRs)				✓
	3.2.1.2 Asset Information Requirements (AIRs)				✓
	3.2.2 Employers Information Requirements (EIR) * coordinate with consultant team and future asset / facility management team and advise client on Employer Information Requirement (EIRs)				✓
	3.2.3 Determine project technology & systems requirement & integration				✓
	3.2.4 Determine project delivery requirements				✓
	3.2.5 Determine the soft landings approach				✓
	3.2.6 Contract & consultancy requirement * be able to lead, draft, comment BIM specifications for all sub-consultancy agreements and understand the contractual impact on respective traditional professional practices, e.g. Level of Development and Clash Analysis * be able to define BIM scope and information deliverables for Architectural Discipline				✓
	3.2.7 Assessment on supply chain capability & capacity (Tender Assessment)				✓
	3.2.8 Case study		✓		
	<i>3.3. – Definition &amp; Design Stage</i>				
	3.3.1 BIM Execution Plan developed by supply chain				✓
	3.3.1.1 Pre-contract BIM Project Execution Plan				✓
	3.3.1.2 Post-contract BIM Project Execution Plan				✓
	3.3.2 Supervision in fulfilling BIM uses in planning & design stages listed in CIC BIM Standards				✓

-	Core Subject	L1	L2	L3	L4	
3. BIM Uses and Processes	3.3.3	Set up conceptual modeling in BIM Platform and spatial programming and be able to direct the coordination with others to carry out the task				✓
	3.3.4	Determine modelling methodology for architectural schedules and drawing production				✓
	3.3.5	Project Information Model (PIM) data exchanges and validation				✓
	3.3.6	BIM PIM file setup				✓
		3.3.6.1 BIM origin point & orientation setup				✓
		3.3.6.2 Model division				✓
		3.3.6.3 Modelling methodology				✓
		3.3.6.4 Project-based industry and BIM standards				✓
	3.3.7	Direct BIM related meetings				✓
		3.3.7.1 Meeting with high level				✓
		3.3.7.2 Meeting with supply chain level				✓
		3.3.7.3 Internal meeting				✓
		3.3.7.4 Multidiscipline collaboration meeting				✓
	3.3.8	Case Study		✓		
	3.3.9	Basic understanding of parametric design tools		✓		
	3.3.10	Supervise open BIM workflow and open BIM inter-operability				✓
	3.3.11	Determine Modelling Methodology for GBP production and statutory compliance checking				✓
	3.3.12	Determine Modelling Methodology for production of tender drawings and documentation				✓
	3.3.13	Basic understanding of environmental plug-in and performance analysis software		✓		
	3.3.14	Understand the limitation of clash detection and adequately utilize the same to assist consultant team on design coordination				✓
		<i>3.4. – Construction Stage</i>				
	3.4.1	BIM Execution Plan developed by supply chain				✓
		3.4.1.1 Pre-contract BIM Project Execution Plan				✓
		3.4.1.2 Post-contract BIM Project Execution Plan				✓
	3.4.2	Supervision in fulfilling BIM uses in construction & handover stage listed in CIC BIM Standards				✓
	3.4.3	Project Information Model (PIM) data exchanges and validation				✓
	3.4.4	Direct BIM related meetings				✓
	3.4.5	Case study		✓		
	3.4.6	Adequately request and utilize contractor's 4D simulation from BIM model for programme planning, progress verification and record		✓		
	3.4.7	Verify contractor's submitted drawings generated from BIM models				✓

-	Core Subject	L1	L2	L3	L4
3. BIM Uses and Processes	3.5. – <i>Handover Stage</i>				
	3.5.1 As-built information verification				✓
	3.5.2 Oversee data transfer from PIM to Asset Information Model (AIM)				✓
	3.5.3 Supervision in fulfilling BIM uses in handover stage listed in CIC BIM Standards				✓
	3.5.4 Case study		✓		
	3.6. – <i>Operation &amp; Maintenance Stage</i>				
	3.6.1 Update Assets Information Model (AIM)		✓		
	3.6.2 Roles, responsibilities and authorities for maintaining the AIM		✓		
	3.6.3 Post occupancy evaluation		✓		
	3.6.4 Case Study		✓		

-	Core Subject	L1	L2	L3	L4
4. Digital Information Management, Collaboration and Integration	<i>4.1. Digital Information Management</i>				
	4.1.1 Value of data & how it should be managed		✓		
	4.1.2 Interoperate data/information to facilitate cross- disciplinary and cross-BIM platform collaboration		✓		
	4.1.3 Limitation of BIM software in relation to information management		✓		
	4.1.4 Determine level of development in the context of graphics and information in different stages				✓
	4.1.5 Determine level of integration of digital information into asset & facility management				✓
	4.1.6 Oversee the process and quality of information exchange				✓
	4.1.6.1 IFC/BCF/XML...etc.		✓		
	4.1.6.2 COBie		✓		
	<i>4.2. Common Data Environment (CDE)</i>				
	4.2.1 Overview of CDE		✓		
	4.2.2 Overview of various CDE platform		✓		
	4.2.3 Setup of CDE			✓	
	4.2.4 Assessment of CDE			✓	
	4.2.5 Management of CDE				✓
	4.2.6 Limitation of CDE		✓		
	<i>4.3 Data Quality Control &amp; Assurance across various stages</i>				
	4.3.1 System checking				✓
	4.3.2 Model audit				✓
	4.3.3 Model checking				✓
	4.3.4 Audit reporting				✓

-	Core Subject	L1	L2	L3	L4
5. Commercial and Contract	<i>5.1 Commercial Issue</i>				
	5.1.1 Establishing BIM ready Environment to support the corporate			✓	
	5.1.1.1 BIM strategy in organisation level		✓		
	5.1.1.2 Challenges in BIM implementation		✓		
	5.1.1.3 Phases in BIM implementation				✓
	5.1.1.4 Hardware requirement for BIM		✓		
	5.1.1.5 Software requirement for BIM		✓		
	5.1.1.6 Manpower management for BIM				✓
	5.1.1.6.1 Staff plan				✓
	5.1.1.6.2 Staff recruitment				✓
	5.1.1.6.3 Staff training				✓
	5.1.2 Promotion of adopting BIM in office/to clients		✓		
	5.1.2.1 Value and benefit of adopting BIM	✓			
	5.1.2.2 Value and benefit of data and information from BIM	✓			
	5.1.2.3 Evaluating Return on Investments (ROI) of adopting BIM		✓		
	<i>5.2. Contract Issue</i>				
	5.2.1 Ownership of data * e.g. demarcate modelling and information responsibilities among disciplines and control federated models		✓		
	5.2.2 Intellectual property right		✓		
	5.2.3 Legal implication and potential liability		✓		
	5.2.4 Professional indemnity				✓
	5.2.5 Introducing NEC	✓			
5.2.6 Commercial implications for contracts & insurances in relation to BIM		✓			

## **Appendix C - Detailed List of Core Competencies of BIM Co (HKIA) / BIM Co**

Minimum Level of Competency:

Level 1(L1) : General appreciation of the subject and an understanding of how the subject may affect, or integrate with other subjects.

Level 2 (L2): Knowledge and understanding of the subject and its application.

Level 3 (L3): Ability to perform the subject independently or under supervision.

Level 4 (L4): Ability to perform the subject without supervision and advise others.

-	Core Subject	L1	L2	L3	L4
1. BIM Initiation	<i>1.1. BIM Concept</i>				
	1.1.1 BIM definitions and terminology	✓			
	1.1.2 The difference between 2D CAD, 3D CAD and BIM	✓			
	1.1.3 Concept of BIM as whole project & whole estate perspective	✓			
	1.1.4 Value and benefits of adopting BIM	✓			
	1.1.5 Value of BIM for AM & FM	✓			
	1.1.6 Collaborative working in BIM	✓			
	1.1.7 Limitation of BIM	✓			
	1.1.8 Challenges within existing working practices & how BIM addresses these		✓		
	1.1.9 How BIM affect the current practice in AECO industry		✓		
	<i>1.2. Local &amp; Global Contexts, BIM standards and guidelines</i>				
	1.2.1 Local BIM standards & resources		✓		
	1.2.1.1 CIC BIM Standards		✓		
	1.2.1.2 Government BIM standards & resources		✓		
	1.2.2 Global context in BIM development	✓			
	1.2.3 Global BIM standards & resources		✓		
	1.2.3.1 ISO 19650		✓		
	1.2.3.2 BIM FORUM LOD Specification		✓		
	1.2.3.3 OpenBIM		✓		



-	Core Subject	L1	L2	L3	L4
2. BIM Software and Technologies	<i>2.1. BIM Software</i>				
	2.1.1 Overview of industry leading BIM software/applications		✓		
	2.1.2 Characteristic, strength and limitation of industry leading BIM software		✓		
	2.1.3 Versions and file formats		✓		
	2.1.4 Interoperability across industry leading BIM software		✓		
	<i>2.2. Technologies</i>				
	2.2.1 Cloud platform		✓		
	2.2.2 Laser scanning		✓		
	2.2.3 Photogrammetry		✓		
	2.2.4 GIS		✓		
	2.2.5 Application of smart devices		✓		
	2.2.6 VR/AR/MR		✓		
	2.2.7 VDC	✓			
	2.2.8 RFID	✓			
	2.2.9 Gaming technology in BIM	✓			
	2.2.10 Robotics	✓			
	2.2.11 Automation	✓			
	2.2.12 API	✓			
	2.2.13 MiC	✓			
	2.2.14 Indoor positioning	✓			
2.2.15 Upcoming Trend	✓				

-	Core Subject	L1	L2	L3	L4
3. BIM Uses and Processes	<i>3.1. – Client Pre-tender Project Stage</i>				
	3.1.1 Client Information Model (CIM)		✓		
	3.1.1.1 Organisational Information Requirements (OIRs)		✓		
	3.1.1.2 Asset Information Requirements (AIRs)		✓		
	3.1.2 Employers Information Requirements (EIR)		✓		
	3.1.3 Coordinate project technology & systems requirement & integration		✓		
	3.1.4 Understand BIM scope and information deliverables for Architectural Discipline		✓		
	3.1.5 Understand contract & consultancy requirement	✓			
	<i>3.2. – Definition &amp; Design Stage</i>				
	3.2.1 BIM Execution Plan developed by supply chain		✓		
	3.2.1.1 Understand Pre-contract BIM Project Execution Plan		✓		
	3.2.1.2 Understand Post-contract BIM Project Execution Plan		✓		
	3.2.2 Coordination in fulfilling BIM uses in planning & design stages listed in CIC BIM Standards			✓	
	3.2.3 Skill on conceptual modeling in BIM Platform and spatial programming and be able to coordinate with others to carry out the task			✓	
	3.2.4 Skill on modelling methodology for architectural schedules and drawing production			✓	
	3.2.5 Project Information Model (PIM) data exchanges and validation			✓	
	3.2.6 BIM PIM file setup				✓
	3.2.6.1 BIM origin point & orientation setup				✓
	3.2.6.2 Model division				✓
	3.2.6.3 Modelling methodology				✓
	3.2.6.4 Project-based industry and BIM standards				✓
	3.2.7 Direct BIM related meetings			✓	
	3.2.7.1 Internal meeting			✓	
	3.2.8 Basic understanding of parametric design tools		✓		
	3.2.9 Carry out open BIM workflow and open BIM inter-operability				✓
	3.2.10 Modelling for GBP production and statutory compliance checking				✓
	3.2.11 Modelling for production of tender drawings and documentation				✓
	3.2.12 Basic understanding of environmental plug-in and performance analysis software		✓		
	3.2.13 Understand the limitation of clash detection and adequately utilize the same to assist design coordination				✓

-	Core Subject	L1	L2	L3	L4
3. BIM Uses and Processes	<i>3.3. – Construction Stage</i>				
	3.3.1 BIM Execution Plan developed by supply chain		✓		
	3.4.1.1 Pre-contract BIM Project Execution Plan		✓		
	3.4.1.2 Post-contract BIM Project Execution Plan		✓		
	3.3.2 Coordination in fulfilling BIM uses in construction & handover stage listed in CIC BIM Standards			✓	
	3.3.3 Adequately request and utilize contractor's 4D simulation from BIM model for programme planning, progress verification and record			✓	
	3.3.4 Verify contractor's submitted drawings generated from BIM models			✓	
	<i>3.4. – Handover Stage</i>				
	3.4.1 As-built information verification			✓	
	3.4.2 Manage data transfer from PIM to Asset Information Model (AIM)			✓	
	<i>3.5. – Operation &amp; Maintenance Stage</i>				
	3.5.1 Update Assets Information Model (AIM)			✓	
	3.5.2 Roles, responsibilities and authorities for maintaining the AIM		✓		

-	Core Subject	L1	L2	L3	L4
4. Digital Information Management, Collaboration and Integration	<i>4.1. Digital Information Management</i>				
	4.1.1 Value of data & how it should be managed		✓		
	4.1.2 Interoperate data/information to facilitate cross- disciplinary and cross-BIM platform collaboration			✓	
	4.1.3 Limitation of BIM software in relation to information management		✓		
	4.1.4 Coordinate level of development in the context of graphics and information in different stages		✓		
	4.1.5 Coordinate level of integration of digital information into asset & facility management		✓		
	4.1.6 Coordinate the process and quality of information exchange			✓	
	4.1.6.1 IFC/BCF/XML...etc.			✓	
	4.1.6.2 COBie			✓	
	<i>4.2. Common Data Environment (CDE)</i>				
	4.2.1 Overview of CDE		✓		
	4.2.2 Overview of various CDE platform		✓		
	4.2.3 Setup of CDE			✓	
	4.2.4 Assessment of CDE			✓	
	4.2.5 Management of CDE		✓		
	4.2.6 Limitation of CDE	✓			
	<i>4.3 – Data Quality Control &amp; Assurance across various stages</i>				
	4.3.1 System checking			✓	
	4.3.2 Model audit			✓	
	4.3.3 Model checking			✓	
4.3.4 Audit reporting			✓		