

Construction Industry Council BIM Certification and Accreditation Schemes

Core Competencies and List of Core Subjects for Applications for Certification of BIM Managers Submitted before 1 October 2026

Core Competencies of a BIM Manager

The Core Competencies of a BIM Manager are:

- (a) BIM Initiation (Ability to describe BIM concept definitions and scope, BIM standards and guidelines in the Hong Kong and global contexts). [Level 2]
- (b) BIM Software and Technologies (Ability to explain BIM software and the modelling process, and current and upcoming technologies). [Level 2]
- (c) 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). [Level 4]
- (d) 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). [Level 4]
- (e) Commercial and Contractual Aspects (Ability to describe commercial and financial issues of BIM as well as BIM-related contractual issues). [Level 2]
- (f) 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.). [Level 4]
- (g) Leadership, Management and Integrity Aspects (Ability to represent the CIC and uphold a high standard of professionalism, integrity and ethical behavior)

List of Core Subjects of a BIM Manager

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 in the whole life cycle of a built asset	✓			
	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 & 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 and collaborative formats		✓		

.	Core Subject		L1	L2	L3	L4
2. BIM Software and Technologies	2.1. BIM Software					
	2.1.1	Overview of common BIM software		✓		
	2.1.2	Characteristic, file format & version, strength and limitation of common BIM software and platform		✓		
	2.1.3	Interoperability across common BIM authoring software	✓			
	2.2. Technologies					
	2.2.1	Internet & cloud	✓			
	2.2.2	Laser scanning & photogrammetry		✓		
	2.2.3	Unmanned Aircraft System (UAS) / Drone		✓		
	2.2.4	GIS		✓		
	2.2.5	Internet of Things (IoT), mobile or smart devices		✓		
	2.2.6	VR/AR/MR		✓		
	2.2.7	RFID		✓		
	2.2.8	VDC	✓			
	2.2.9	Robotics	✓			
	2.2.10	Programming, automation and API	✓			
	2.2.11	MiC, DfMA and MiMEP		✓		
	2.2.12	Indoor positioning	✓			
	2.2.13	Upcoming trend of technology	✓			

-	Core Subject	L1	L2	L3	L4
3. BIM Uses and Processes	3.1. – Client BIM Strategic Stage				
	3.1.1 BIM strategy, BIM uses, BIM processes		✓		
	3.1.2 Key personnels in relation to BIM and their roles and responsibilities	✓			
	3.1.3 Determine the information 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 under LOIN				✓
	3.1.6 Determine level of integration of digital information into asset & facility management				✓
	3.1.7 Case study		✓		
	3.2. – Client Pre-tender Project Stage				
	3.2.1 Determine & oversee the development of Appointing Party requirements				✓
	3.2.1.1 Organisational Information Requirements (OIRs)				✓
	3.2.1.2 Asset Information Requirements (AIRs)				✓
	3.2.1.3 Project Information Requirements (PIRs)				✓
	3.2.1.4 Security Information Requirements (SIRs)				✓
	3.2.2 Exchange Information Requirements (EIRs)				✓
	3.2.3 Determine project technology & systems requirement & integration				✓
	3.2.4 Determine project delivery requirements and identify appropriate BIM Uses				✓
	3.2.5 Contract & consultancy requirement		✓		
	3.2.6 Assessment on supply chain capability & capacity				✓
	3.2.7 Case study		✓		
	3.3. – Definition & Design Stage				
	3.3.1 BIM Execution Plan developed by supply chain				✓
	3.3.1.1 Pre-appointment BIM Project Execution Plan				✓
	3.3.1.2 Post-appointment BIM Project Execution Plan				✓
	3.3.2 Supervision in fulfilling BIM uses in planning & design stages listed in CIC BIM Standards				✓
	3.3.3 Project Information Model (PIM) data exchanges and validation				✓
	3.3.4 BIM PIM file setup				✓
	3.3.4.1 BIM origin point & orientation setup				✓
	3.3.4.2 Model division				✓
	3.3.4.3 Modelling methodology				✓

-	Core Subject	L1	L2	L3	L4
	3.3.4.4 Project-based industry and BIM standards				✓
3.3.5	Direct BIM related meetings				✓
	3.3.5.1 Meeting with Appointing Party and Appointed Parties				✓
	3.3.5.2 Meeting for multidiscipline design collaboration				✓
	3.3.5.3 Internal steering and coordination meeting				✓
	3.3.5.4 Meeting with or giving presentation to external stakeholders				✓
3.3.6	Case Study		✓		
	<i>3.4. – Construction Stage</i>				
3.4.1	BIM Execution Plan developed by supply chain				✓
	3.4.1.1 Pre-appointment BIM Project Execution Plan				✓
	3.4.1.2 Post-appointment BIM Project Execution Plan				✓
3.4.2	Supervision in fulfilling BIM uses in construction 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		✓		
	<i>3.5. – 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		✓		
	<i>3.6. – Operation & 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 under LOIN				✓
	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 in different formats (BCF, IFC, IDM, bsDD, COBie, MVD, etc.)				✓
	<i>4.2. Common Data Environment (CDE)</i>				
	4.2.1 CDE solution and workflow		✓		
	4.2.2 Overview of CDE solutions in the market		✓		
	4.2.3 Setup of CDE			✓	
	4.2.4 Assessment and selection of CDE			✓	
	4.2.5 Management of CDE				✓
	4.2.6 Limitation of CDE		✓		
	<i>4.3 – Data Quality Control & Assurance across various stages</i>				
	4.3.1 System checking (including software and hardware)				✓
	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 appointing party		✓		
	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		✓		
	5.2.2 Intellectual property right		✓		
	5.2.3 Legal implication and potential liability		✓		
	5.2.4 Professional indemnity	✓			
	5.2.5 Introducing NEC4 and Option X10 for BIM	✓			
	5.2.6 Commercial implications for contracts & insurances in relation to BIM		✓		