**CICES DIGITAL CIVIL ENGINEERING SURVEYOR (CES)**

**SPECIALIST BIM MODELLER COMPETENCIES MAY 2025**

**SPECIALIST BIM MODELLER COMPETENCIES – 2025**

The Digital CES competencies are split into core and specialist competencies.   
  
**OPTIMUM STANDARDS**

Each of the activities under the competencies must be signed off to a specific standard, indicated by one of the letters A, K, E or B. The definitions of these are given blow.

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| **A** | **Appreciation** | A general awareness of the activity is required. This could be acquired by reading a magazine article or attending a CPD event. |
| **K** | **Knowledge** | This standard requires a more detailed level of knowledge understanding of the activity. This could be acquired by undertaking a training course or other type of study but not necessarily put into practice e.g. a subject area on a degree course. |
| **E** | **Experience** | To reach this standard the activity must have been performed independently or under supervision. This may be achieved by undertaking the activity in a work context over a period of time. Experience of the activity or subject should follow on and be additional to appreciation and knowledge in that subject area. |
| **B** | **Ability** | To be able, without supervision, to perform relevant functions and be able to supervise other less experienced staff. This may be evidenced by the undertaking of management roles or experience gained over time. |

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| **BIM Modeller Specialist 01** | **Competency** | | **BIM Model Authoring** | | | | |
| **Item** | **Optimum** | | **Activity Detail** | **Date of Assessment** | | | |
| **Technical** | **Member** | **A** | **K** | **E** | **B** |
| **A** | E | B | Proficiency in utilising BIM software, for example Revit, Navisworks, Civil 3D, Archicad, Tekla, OpenBuildings, Vectorworks etc |  |  |  |  |
| **B** | E | B | Creating 3D models for buildings/infrastructure/construction/temporary works |  |  |  |  |
| **C** | K | E | Creating intelligent BIM objects, including parametric modelling |  |  |  |  |
| **D** | K | E | Familiar with clash detection tools to resolve conflicts within the model |  |  |  |  |
| **E** | K | E | Knowledge of BIM standards and protocols for information exchange, e.g. openBIM standards such as IFC, COBie etc |  |  |  |  |
| **F** | E | B | Use of a Common Data Environment to share and collaborate BIM models and resolve issues |  |  |  |  |
| **G** | A | K | Knowledge of BIM modelling in other industries outside your specialist area |  |  |  |  |

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| Supervisor’s Signature: | Date: |
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| **BIM Modeller Specialist**  **02** | **Competency** | | **Model Validation** | | | | |
| **Item** | **Optimum** | | **Activity Detail** | **Date of Assessment** | | | |
| **Technical** | **Member** | **A** | **K** | **E** | **B** |
| **A** | K | E | Clash detection tools to resolve conflicts within the model |  |  |  |  |
| **B** | K | E | Modelling standards and protocols for information exchange, e.g. openBIM, standards such as IFC, COBie etc. |  |  |  |  |
| **C** | E | B | Common Data Environment to share, version control, and federate models to resolve issues |  |  |  |  |
| **D** | A | K | Modelling in other industries outside your specialist area |  |  |  |  |

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| **BIM Modeller Specialist**  **03** | **Competency** | | **BIM Model Analytics** | | | | |
| **Item** | **Optimum** | | **Activity Detail** | **Date of Assessment** | | | |
| **Technical** | **Member** | **A** | **K** | **E** | **B** |
| **A** | K | B\* | Assessment of project data requirements and translation into models |  |  |  |  |
| **B** | K | B\* | Implementing data validation and verification processes/techniques/tools |  |  |  |  |
| **C** | K | E | Managing model datasets and managing large amounts of information within the model and extracting information for other end users |  |  |  |  |
| **D** | E | B | Raise and respond to RFIs during iterative design delivery phase |  |  |  |  |

\*Significant knowledge gap between technical and member grades is anticipated

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| **BIM Modeller Specialist**  **04** | **Competency** | | **Industry Knowledge** | | | | |
| **Item** | **Optimum** | | **Activity Detail** | **Date of Assessment** | | | |
| **Technical** | **Member** | **A** | **K** | **E** | **B** |
| **A** | K | B\* | Architecture, Engineering and Construction (AEC) principles – reference key documents including IM standards |  |  |  |  |
| **B** | A | A | Construction materials, methods and processes |  |  |  |  |
| **C** | A | K | Sustainability principles and relation to BIM modelling |  |  |  |  |
| **D** | A | K | Intellectual property rights and licensing agreements related to BIM content |  |  |  |  |
| **E** | A | K | Cybersecurity and General Data Protection Regulations (GDPR) knowledge of Industry Standards such as ISO19650:5, and how these are incorporated into Company Policy. |  |  |  |  |
| **F** | E | B | Continuous learning of emerging technologies, solutions and workflows to enhance BIM modelling |  |  |  |  |

\*Significant knowledge gap between technical and member grades is anticipated

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| **BIM Modeller Specialist**  **05** | **Competency** | | **Collaboration** | | | | |
| **Item** | **Optimum** | | **Activity Detail** | **Date of Assessment** | | | |
| **Technical** | **Member** | **A** | **K** | **E** | **B** |
| **A** | E | B | Upskill and mentor others on how to use digital tools and production of information |  |  |  |  |
| **B** | K | B\* | Producing content to inform communication and collaboration with Client, Customers and stakeholders on the use of software, platforms and processes |  |  |  |  |
| **C** | E | B | Problem solving to identify and address issues within the model (e.g. supporting the production of content for design coordination meetings) |  |  |  |  |
| **D** | E | B | Capturing and sharing best practice, lessons learnt and knowledge with peers and colleagues |  |  |  |  |

\*Significant knowledge gap between technical and member grades is anticipated

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