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

**CORE COMPETENCIES**

**May 2025**

**DIGITAL CIVIL ENGINEERING SURVEYOR (CES) CORE 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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| **DCES Core 01** | **Competency** | **National BIM Frameworks, including digital requirements, and information management standards** |
| **Item** | **Optimum** | **Activity Detail** | **Date of Assessment** |
| **Technical** | **Member** | **A** | **K** | **E** | **B** |
| **A** | K | E | Legislation and standards (e.g. ISO 19650 and/or UK BIM Framework, and/or local standards etc). |  |  |  |  |
| **B** | K | E | The needs and values associated with contract obligations, client brief, quality and project Information requirements. |  |  |  |  |
| **C** | A | K | Requirements of Digital modelling approaches/methods in other industries.  |  |  |  |  |
| **D** | A | E | Appreciation of security minded information management (ISO Part 5).  |  |  |  |  |

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| Supervisor’s Signature: | Date: |
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| **DCES Core 02** | **Competency** | **Importance of data collection, storage and use of that data aligned to the appropriate project standards and requirements** |
| **Item** | **Optimum** | **Activity Detail** | **Date of Assessment** |
| **Technical** | **Member** | **A** | **K** | **E** | **B** |
| **A** | A | K | Data capture/gathering/collating: - Evaluate software requirements for different data capture systems in the field and office that is available i.e. scanning, surveying, cloud base production records, CDE etc. |  |  |  |  |
| **B** | A | K | Impact of data collection and its use in modelling aligned with BIM protocols. |  |  |  |  |
| **C** | A | K | Data validation and verification processes/techniques/tools for information exchange for intended use. For example, setting out, 4D Planning, 5D cost and carbon estimating, machine guidance where applicable. |  |  |  |  |
| **D** | K | E | Data formats i.e.- DFX, DGN, DWG and the compatible software or accuracy of conversion to alternative format  |  |  |  |  |

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| **DCES Core 03** | **Competency** | **Data Analytics** |
| **Item** | **Optimum** | **Activity Detail** | **Date of Assessment** |
| **Technical** | **Member** | **A** | **K** | **E** | **B** |
| **A** | A | K | Identifying opportunities for Data analytics - relating to project operation success. |  |  |  |  |
| **B** | A | K | Strategy and governance of data analytics. |  |  |  |  |
| **C** | A | K | Collation and preparation of data analytics and quality of information that it provides  |  |  |  |  |

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| **DCES Core 04** | **Competency** | **Contracts and the Information modelling clause related to the scope of works** |
| **Item** | **Optimum** | **Activity Detail** | **Date of Assessment** |
| **Technical** | **Member** | **A** | **K** | **E** | **B** |
| **A** | A | K | Managing and the application of the scope for Digital Delivery, examples: NEC4, X10 clause, JCT, and/or applicable contracts and protocols.  |  |  |  |  |
| **B** | A | K | Exchange Information Requirements (EIR) - Understanding the information requirements and deliverables  |  |  |  |  |
| **C** | A | K | Common Data Environment (CDE) and its importance and significance in managing contractual obligations. |  |  |  |  |
| **D** | K | E | Individual understanding of responsibilities for information management for your discipline throughout the project lifecycle. |  |  |  |  |
| **E** | A | K | Health & Safety and Digital Delivery, example CDM. |  |  |  |  |

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| **DCES Core 05** | **Competency** | **Benefits and importance of digital delivery** |
| **Item** | **Optimum** | **Activity Detail** | **Date of Assessment** |
| **Technical** | **Member** | **A** | **K** | **E** | **B** |
| **A** | A | K | Explaining the cost/benefit/risk.  |  |  |  |  |
| **B** | K | E | The importance and significance of building and maintaining personal/professional relationships required for effective Digital Delivery. |  |  |  |  |
| **C** | K | E | Design delivery phases and their impact on the “Design” during the whole project lifecycle. |  |  |  |  |
| **D** | K | E | Continuous learning, training, upskilling and mentoring peers. |  |  |  |  |
| **E** | K | E | Value engineering techniques and their importance in achieving cost effective and safe design, construction and maintenance solutions, including transfer or acceptance of risk, design and performance obligations as a result. |  |  |  |  |
| **F** | K | E | Health & Safety - Risk identification, analysis and management |  |  |  |  |

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