

TECHNICAL MEMBER COMPETENCIES –LAND & ENGINEERING SURVEYING

The measurement, definition and portrayal, either digitally or graphically in the form of maps or plans, of the physical features of, and the structures on the earth's surface. The ability to understand engineering design information and from this provide dimensional control for stages of construction work.

Range indicators

This competency will be demonstrated in the application of relevant knowledge, understanding and skills set out in the Land and Engineering Surveying competency requirements. Such knowledge and skills will normally be obtained through structured education, training and development to the requisite level and appropriate work experience.

This area of specialism includes the following core skills:

- To be able to demonstrate knowledge and experience of co-ordinate systems
- To be able to demonstrate awareness of currently available instrumentation
- To be able to demonstrate competence with available instrumentation
- To be able to demonstrate knowledge and experience of data management
- To be able to demonstrate knowledge and experience of health and safety in the workplace

Communication, basic computing and health and safety skills apply to all specialisms and are elsewhere.

Evidence Guide

Evidence of successful achievement of this competency would be effective and efficient management of the land and engineering surveying process with the application of appropriate systems for monitoring and reporting of data, at the minimum levels as stated in the competency details and range of elements.

Core Competencies		Land and engineering surveying				
C1-C6	Optimum Standard	Activity Details	Date of Assessment			
			A	K	E	B
C1	K	Understanding of co-ordinate systems.				
C2	A	Awareness of currently available instrumentation.				
C3	B	Competence with available instrumentation.				
C4	B	Data management.				
C5	E	Quality control.				
C6	K	Health and safety in the workplace.				
	Review	Supervisor's signature: _____				
		Date: _____				

Specific Competencies		Land and Engineering Surveying				
S1-S10	Optimum Standard	Activity Details	Date of Assessment			
			A	K	E	B
S1	E	Basic projections and grids.				
S2	B	Co-ordinate geometry.				
S3	B	Survey control and observations.				
S4	B	Angular measurement.				
S5	B	Distance measurement.				
S6	E	Survey adjustment and theory of errors.				
S7	B	Detail / As built surveys.				
S8	B	Field Sketches.				
S9	B	Station descriptions.				
S10	B	Survey draughting systems.				
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		Date:				

Specific Competencies		Land and Engineering Surveying				
S11-S20	Optimum Standard	Activity Details	Date of Assessment			
			A	K	E	B
S11	B	Levelling, principles and practice.				
S12	B	Vertical angle heighting.				
S13	E	Use of GPS				
S14	E	Use of reflectorless EDM				
S15	K	Use of non-contact methods of measurement i.e. scanner/photogrammetry				
S16	E	Surveying for areas and volumes				
S17	E	Digital terrain modelling				
S18	B	Use of construction lasers				
S19	A	Control of photogrammetry				
S20	B	Measured building surveys.				
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		Date:				

Specific Competencies		Land and Engineering Surveying				
S21-S26	Optimum Standard	Activity Details	Date of Assessment			
			A	K	E	B
S21	E	Control for building surveys.				
S22	K	Monitoring and deformation surveys.				
S23	B	Setting out – general.				
S24	A	Setting for machine control.				
S25	A	Underground surveying.				
S26	K	Surveying of utilities services.				
	Review	Supervisor's signature:		Date:		