

GEOSPATIAL ENGINEERING COMPETENCIES – Photogrammetry and Remote Sensing

The art, science and technology of obtaining reliable information about physical objects and the environment from images and patterns of electromagnetic radiant energy obtained from terrestrial, airborne and spatial platforms.

Range Indicators

Competency will be demonstrated in the application of relevant knowledge, understanding and skills set out in the photogrammetry and remote sensing competency requirements. Such knowledge and skills will normally be obtained through a structured education to the requisite level and work experience.

This area of specialism includes the following core skills:

- To have the knowledge and understanding of photogrammetry, remote sensing and photographic interpretation
- To have experience of photogrammetric instrumentation (analytical or digital)
- To have knowledge of digital remote sensing workstations
- To have experience of control requirements, methods of acquisition and triangulation
- To understand and apply topographic mapping techniques
- To be able to produce large and small scale topographical survey data
- To be able to prepare digital surface models
- To be aware of laser measurement systems (airborne and terrestrial)
- To be aware of GPS surveying systems

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

Evidence Guide

Evidence of successful achievement of this competency would be effective and efficient management of the photogrammetry and remote sensing process together 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.

GEOSPATIAL ENGINEERING COMPETENCIES – Photogrammetry and Remote Sensing

	Competency	Photogrammetry and Remote Sensing.				
GES3	Optimum Standard	Activity Details	Date of Assessment			
			A	K	E	B
A	E	Principles of photogrammetry, remote sensing and photographic interpretation.				
B	E	The work of analytical and digital photogrammetric instrumentation.				
C	K	The work of remote sensing systems.				
D	E	Commissioning of photography and other remotely sensed imagery (terrestrial, aerial and space).				
E	E	Photo scales and associated accuracies.				
F	E	Types of control requirements, methods of acquisition and triangulation.				
G	E	Topographic mapping.				
H	E	Close range applications.				
J	E	Methods of digital surface model generation.				
K	E	Production of large-scale engineering plans.				
L	K	Rectified imagery, ortho photos and their uses.				
M	E	CAD formatting and applications.				
N	K	Airborne and terrestrial laser measurement systems.				

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	1st Review	Supervisors signature. Date:				
	2nd Review	(Supervisors signature). Date:				
	3rd Review	(Supervisors signature). Date:				