

Apprenticeship Standard – Geospatial Survey Technician

1. Occupation

Geospatial Survey Technicians collect geospatial data (data relating to geographic position on the earth's surface) for use in the creation of maps, satellite navigation systems (Satnavs), Global Positioning Systems (GPS), construction of infrastructure including roads, buildings, bridges, offshore construction such as wind turbines and oil rigs, the identification of local, suburban or international boundaries, military, mining and a wide range of other purposes. Geospatial Technicians use a wide range of technologies such as Geographic Information Systems (GIS) and electronic data capture tools and processes, such as Building Information Modelling.

The main duties and tasks are to:

- capture geospatial information
- take, record and document appropriate geospatial measurements to the required specification
- work with other professionals, clients, customers and others to obtain and provide geospatial information
- perform calculations and use geospatial data

Geospatial Survey Technicians can work in either the public or private sector and employers include geophysical consultants, civil engineering contractors and consultancies, rail operators, mining companies, local authorities, central government, the military, multinational corporations, specialist land, air and offshore mapping companies, cartographic publishers, suppliers of computer based mapping technology and GIS, utilities companies and a range of others. Geospatial Survey Technicians work with scientists, technologists and other related and land related professionals.

2. Entry

The entry requirement for the apprenticeship will typically be 5 GCSEs at Grade C or higher including Maths and English or a Level 2 apprenticeship in a relevant discipline but the final decision is that of each employer.

3. Requirements: Knowledge, Skills and Behaviours

Knowledge

Knowledge	What is required - Geospatial Survey Technicians will be required to know and understand:
Geospatial data	How to capture, process, manage, use and quality assure geospatial data and undertake relevant calculations
Health and safety	The principles and responsibilities imposed by law, codes of practice and other regulations
Cartography	The principles of mapping and geographic information sciences and accuracy, scale, currency and fitness for purpose of hardcopy and/or digital maps, drawings, imagery and plans.
Measurement	Take, record and document geospatial measurements to the required specification. The principles and limitations of measurement and the techniques used to gather spatial data. Be aware of the importance of co-ordinate systems, projections, transformations and datums.
Geospatial technology (including GIS)	Appropriate geospatial technologies (must include Geographic Information Systems) and the application of these systems
Sustainability	How and why sustainability seeks to balance economic, environmental and social objectives
Legal and regulatory compliance	The principles of law relating to land ownership and boundaries and the appropriate permissions required to undertake geospatial survey work
Personal effectiveness	How to manage their own time and tasks, communicate and negotiate effectively and know how to plan and prepare work to meet client and budgetary requirements

Skills

Skill	What is required
Geospatial data collection	Capture, process, manage, use and quality assure geospatial data. Perform relevant calculations
Health and safety	Demonstrate the application of health and safety issues and the requirements for compliance. Plan and prepare appropriate risk assessment and method statements
Cartography	Apply knowledge of the principles of mapping and geographic information sciences in practice
Measurement	Take geospatial measurements using basic and/or advanced instrumentation, such as an Electronic Distance Measurement devices, automatic levels, lasers, scanners, and Global Positioning Systems. Present, record and document appropriate information gained from measurement to the required specification. Specify and plan surveys and the instrumentation needs.
Geospatial technology	Use appropriate methodology and technology to collect relevant digital data. (must include use of Geographic Information Systems).
Legal and regulatory compliance	Apply knowledge to comply with relevant legislation and regulations when undertaking geospatial work
Personal effectiveness	Effectively manage time and tasks, communicate and negotiate effectively and plan and prepare appropriate methodologies and technologies. Use effective techniques for conflict avoidance

Behaviours

Behaviour	What is required
Provide a high standard of service	Provide the best possible service, with attention to detail meeting all deadlines set
Trust and integrity	Develop trust by working in a professional and positive manner at all times and be honest and straightforward
Treat others with respect	Treat everyone with courtesy, politeness and respect
Take responsibility	Be accountable for your own actions
Personal development	Seek advice and explanation and seek feedback on your own performance. Participate willingly in learning from and observing others
Share knowledge	Work with other parties from collection to delivery of geospatial data ensuring the sharing of knowledge

4. English and Maths

Apprentices without level 2 English and Maths will need to achieve this level prior to taking the end-point assessment.

5. Professional registration

The apprenticeship will provide the necessary knowledge, skills and behaviours to apply to become an Associate member of the Royal Institution of Chartered Surveyors or an Associate Member of the Chartered Institution of Civil Engineering Surveyors.

6. Duration

The Geospatial Technician apprenticeship will typically be undertaken over 2 years.

7. Level

This Apprenticeship Standard is at Level 3.

8. Review date

This Apprenticeship Standard will be reviewed after 3 years.