END POINT ASSESSMENT PLAN FOR

GEOSPATIAL MAPPING AND SCIENCE SPECIALIST - LEVEL 6 DEGREE APPRENTICESHIP (NON-INTEGRATED)

Geospatial Mapping and Science Specialists interpret and analyse geospatial data (data relating to geographic position on the earth's surface) and use leading edge digital technology such as laser scanning, Geographic Information Systems, remote sensing and imagery. They provide data analysis and advice for mapping, satellite navigation systems (Satnavs), Global Positioning Systems (GPS), infrastructure, the identification of local, sub-urban or international boundaries, military, mining and a wide range of other purposes. Geospatial Mapping and Science Specialists can specialise in geospatial engineering (infrastructure including roads, buildings, bridges, offshore construction such as wind turbines and oil rigs), hydrography (coastlines, seabeds, harbours and rivers), utilities (networked infrastructure such as water, electricity, gas) or geospatial surveying (mapping of land, boundaries, land registry).

The Geospatial Mapping and Science Specialist (Degree) Apprenticeship has been designed by an employer working group which includes employers of varying sizes and has also included the professional bodies, the Royal Institution of Chartered Surveyors (RICS) and the Chartered Institution of Civil Engineering Surveyors (ICES). This Assessment Plan sets out the requirements for the End Point Assessment (EPA). The assessment process has been designed to:

- Allow apprentices to demonstrate occupational competence as a Geospatial Mapping and Science Specialist
- Be relevant to professional Geospatial Mapping and Science roles
- Lead to a professional qualification
- Be accessible and relevant for employers of all sizes, disciplines and locations

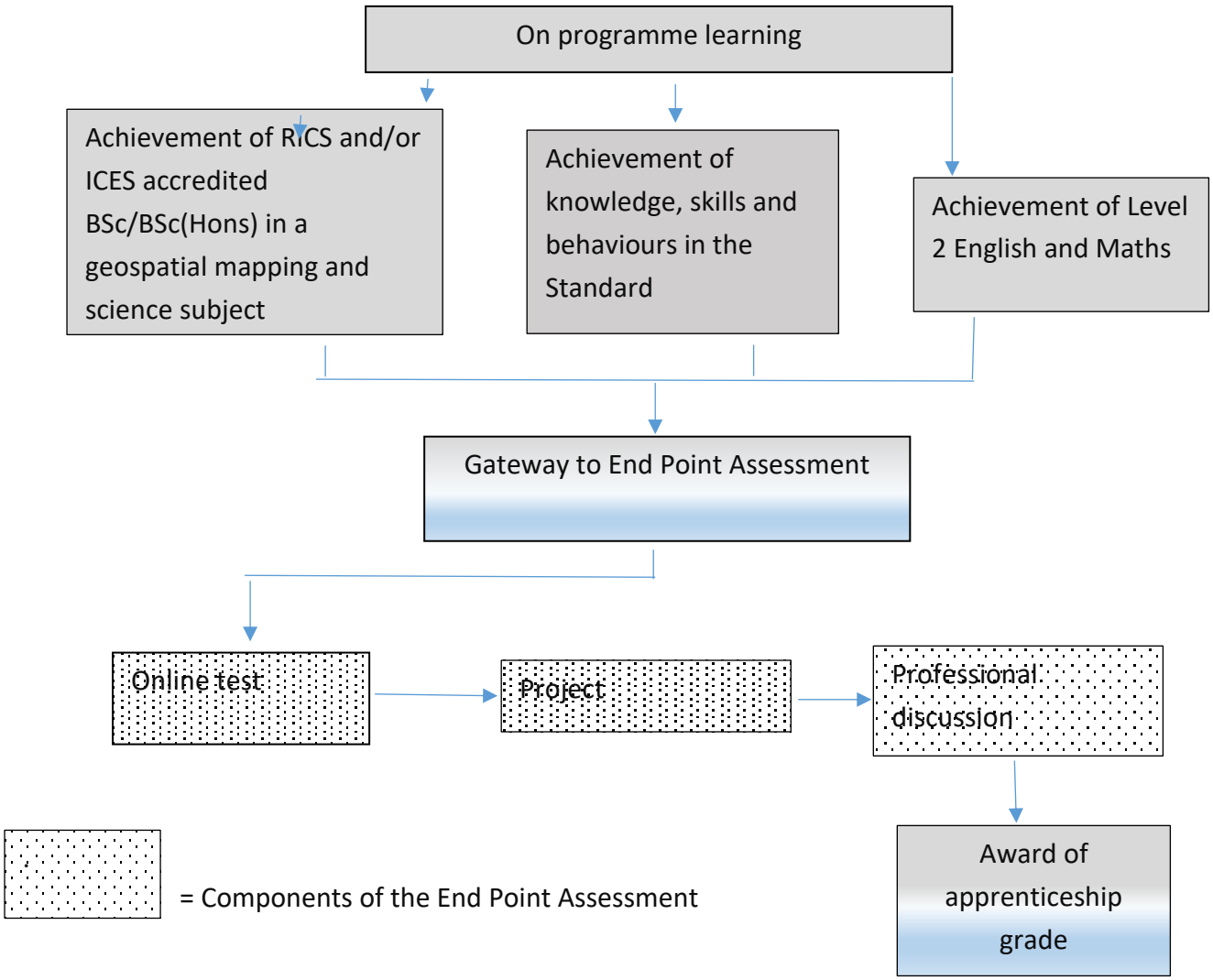
Summary of Assessment

In order to successfully achieve the Geospatial Mapping and Science Specialist (Degree) Apprenticeship apprentices must pass a degree in a geospatial science subject that is accredited by the RICS or ICES, demonstrate the knowledge, skills and behaviours in the Standard and pass the End Point Assessment (EPA). Higher Education Institutions will work with employers to allow apprentices to develop the required competency in the standard and to prepare for the EPA. The employer will decide when the apprentice is ready to pass through the gateway to the EPA.

The EPA will include the following components:

1. An online test
2. Written project
3. Professional discussion

All of the above will be assessed by an Independent Assessment Organisation (IAO) which is on the Register of Apprentice Assessment Organisations.



Assessment Overview				
Assessment Method	**Area Assessed**	**Assessed by**	**Grading**	
Online test	Knowledge – details are set out in Appendix B	Independent Assessment Organisation	Fail/Pass/Merit/Distinction	
Project	Knowledge, skills and behaviours – details are set out in Appendix B	Independent Assessment Organisation	Fail/Pass/Merit/Distinction	

Professional discussion	Knowledge, skills and behaviours – details are set out in Appendix B	Independent Assessment Organisation	Fail/Pass/Merit/Distinction	

On-programme Activities

The on-programme assessment will include a degree that is accredited by either the RICS or ICES. The degree will include a range of modules studied by either traditional face to face teaching, e learning or a blended learning approach delivered by Universities and covering the breadth and depth of the standard. Individual modules will be assessed and must be passed in accordance with standard University regulations.

Employers will develop their own programmes to support work based experience. It is recommended that employers implement formative on programme assessment to help apprentices demonstrate that they have developed the required knowledge, skills and behaviours before taking the EPA.

Assessment Gateway

The apprentice must successfully complete the degree before being able to take the EPA. The employer will ensure that the apprentice has achieved Level 2 Maths and English prior to taking the EPA and will decide when the apprentice is ready to take the EPA. Apprentices will typically complete the EPA within 6 months of going through the gateway to the EPA.

End-point - Assessment

What

The EPA will assess all of the apprentice's knowledge, skills and behaviours across the apprenticeship standard. The details of what will be assessed for each method is set out in Appendix B.

How

The EPA will typically take 6 months. The flowchart in Appendix A summarises the process. There are three components to the EPA:

<u>Online test</u>

A knowledge test consisting of 20 multiple choice questions on personal effectiveness each of which is followed by five possible answers. The IAO will develop a bank of at least 130 questions from which the 20 are randomly selected. 15 of the 20 questions will be scenario based. The questions must allow the apprentice to demonstrate knowledge of personal effectiveness. In each case there will be one 'ideal' answer which accurately reflects best practice and is worth two points and one answer which, although not as good as the 'ideal' answer will be acceptable and worth one point. These one point answers will indicate appropriate courses of action or responses but do not fully reflect best practice (professional standards). There will be a time limit of 40 minutes. Apprentices must score at least 75% (30 points) to pass the test and must pass this before being able to submit the project for assessment. Apprentices who fail the test are able to retake this up to three times and the databank will provide different sets of questions for each retake. The test will be worth 20% of the final grade. The test will be undertaken under controlled conditions either at an assessment centre operated by the IAO or at

the apprentice's place of work, with former approval of the IAO. This approval must include arrangements for invigilation. These arrangements must be in place before the test takes place.

All tests must be invigilated and the identity of apprentices must be checked and confirmed prior to commencement of the test. If the test is undertaken at an employer's office after the test the invigilator must provide a report to the IAO confirming the arrangements that were used for the invigilation. This must be signed by both the invigilator and the apprentice. The invigilator must not have had any prior involvement with the apprentice.

Tests will be computer marked. Test questions will be reviewed and updated by the IAO at least every twelve months.

An example question would be:

You are agreeing your terms and conditions with a client company, and it is clear that the client has not read them. What should you do?

a) Allow the client to sign the contract anyway

b) Advise the client to seek legal advice

c) Go through the terms and conditions with your client. Your responsibility then ends

d) Go through the terms and conditions with your client and advise them to seek legal advice if they are still unsure

e) Refuse the client's business until they can show that they understand the contract.

(d) would be worth 2 points and (b) 1 point

Project

Apprentices will undertake a work based project. All projects must be agreed by one of the independent assessors who will assess the project to ensure that apprentices will be able to demonstrate all aspects of the standard required. Apprentices should provide project proposals for approval within two months of passing the gateway to the EPA and approval or rejection must be given by the IAO within two weeks of the project proposal submission by the apprentice to the IAO. The project should be completed within 4 months of the agreement of the project by the IAO. The project must provide an opportunity for the apprentice to provide evidence of all of the core knowledge and skills, the optional knowledge and skill chosen depending on the apprentice's job role and all the behaviours as set out in Appendix B. Project proposals must include the following minimum information:

- Project title
- 500 word synopsis including a summary of the key issues or challenges, options for dealing with these and the apprentice's role
- The timeline for the project
- The date of the proposed submission of the written project

If a proposal is not accepted the apprentice may submit up to two alternative proposals. If the proposal is not accepted the independent assessor must provide feedback to the apprentice explaining the reasons why.

The project will be presented as a 3000 word (with a 10% tolerance either way) report and must include illustrations, calculations and plans and be verified by the apprentice's employer that the project is a true

reflection of the apprentice's involvement and that the report is their own work. The project must include the following:

- A summary of the project and the apprentice's role and level of responsibility
- The key issues or challenges on the project
- The practical application of knowledge, skills and behaviours
- The options considered, solutions identified and reasons why some options were not feasible
- What the apprentice achieved and how this was achieved
- A reflection and critical analysis of the apprentice's performance and the lessons learnt
- Verification by the apprentice's employer that the project is a true reflection of the apprentice's involvement and that the report is their own work

The following are examples of possible project proposals:

- A hydrographic survey of a river to establish the water depth and type of river bed for engineering works to facilitate the crossing of a cable.
- Installation of geodetic control network for a large linear infrastructure project with ongoing densification of appropriate levels of horizontal and vertical control for all sub-contractors and potential users. Use of post processing software and other survey related software packages
- Management of the survey of a road bridge from the scoping of the task to the presentation of the client report

The project will be assessed by two assessors. Each assessor will give a percentage mark in accordance with the grading criteria in Appendix C and the two marks will be averaged to give the apprentice's project grade. The apprentice must be advised of their grade within two weeks of the submission of the project for assessment. This date must be at least two weeks before the date of the professional discussion.

Apprentices must pass the project before taking the professional discussion . See 'End Point – Grading' for information regarding retakes/resits.

<u>Professional discussion</u>

The professional discussion will provide additional rigour for the end point assessment process by testing the apprentice's ability to defend and to explain the validity of courses of action. Before taking the professional discussion apprentices will be required to provide a 5500 word (with a 10% tolerance either way) summary of how they have met the apprenticeship standard. This will provide reflective evidence of the knowledge and experience the apprentice has gained over the period of the apprenticeship. The report should be presented with an introduction explaining the purpose of the summary then with a heading and summary for each of the

knowledge, skills and behaviours of the standard showing how each of these has been achieved. The summary must highlight the practical elements of the apprentice's experience and fieldwork identifying the equipment, instruments and technologies used. The summary must be verified by the apprentice's employer that the project is a true reflection of the apprentice's experience. Appendix D provides an example of a template that could be used for the summary of experience although IAO's may develop alternative templates.

The summary of experience must be submitted to the IAO at least two weeks prior to the agreed professional discussion date. The summary will be reviewed by two assessors who will together formulate the questions for the professional discussion. The questions must be consistent in terms of demand and level for all apprentices.

The professional discussion will be in the form of an interview with a panel of two assessors and will take one hour. It can be conducted face to face or via an online platform. The online platform must include a video link so that apprentices can see assessors and assessors can see the apprentice. The identity of the apprentice must be checked and confirmed prior to commencement. The location or the platform will be sourced by the IAO. It explores with the apprentice what has been produced in the summary of experience. Assessors will:

- Clarify the evidence in the summary of experience
- Confirm and validate judgements made by the assessors about the quality and appropriateness of the information presented
- Confirm and validate understanding of the behaviours
- Explore aspects of the work in more detail, including how it was carried out and why a course of action was taken
- Explore the practical application of knowledge, skills and behaviours including the use of equipment, instruments and technologies
- Give a percentage mark in accordance with the grading criteria in the appendix to this Plan

Each assessor will give a percentage mark in accordance with the grading criteria Appendix C and the two marks will be averaged to give the apprentice's professional discussion grade.

Who

The IAO will provide independent external assessment of knowledge, skills and behaviours through the computer marked online test and assessment of the project and professional discussion. The IAO must be on the Register of Apprentice Assessment Organisations. The independent assessors must:

- Have a minimum of 3 years post professional qualification experience and be working in relevant employment
- Be a chartered professional of the RICS or a Member or Fellow of the ICES
- Have evidence of up to date CPD (as required by the relevant professional body)
- Have experience of assessing learners or willingness to undertake training

End-point – final judgement

The IAO will determine the final grade by using the percentage mark for the online test, the average of the two assessors' percentage marks for the project and the average of the two assessors' percentage marks for the professional discussion and apply the relevant weightings as set out in 'End Point – Grading' below. The resulting overall percentage will determine the apprentice's final grade.

Independence

The EPA will be assessed by two independent assessors who work for an IAO on the Register of Apprentice Assessment Organisations. The independent assessor will have no previous relationship to the apprentice and will make a holistic judgement of each apprentice's work on the basis of the evidence supplied as set out above. The EPA will be assessed and verified independently of the employer or any training provider.

All independent assessors must be managed by an IAO who will develop assessment materials.

The IAO must implement a Conflict of Interest policy which ensures that any assessor declares a known conflict of interest with an employer or apprentice. A conflict of interest can be defined as a person who is connected to the development and/or delivery of the assessments or has interests in any other activity which has the potential to lead that person to act contrary to his or her involvement in the development and/or delivery of the EPA.

End-point - Grading

Independent assessors will grade apprentices as Fail, Pass, Merit or Distinction using all the information gained in the EPA process described above and with reference to the grading criteria in Appendix C. The apprenticeship grade will be based on the outcomes of the three EPA components: the online test, the project and the professional discussion.

The end point assessment components are weighted as follows:

- Online test – 20 % of grade
- Project – 50% of grade
- Professional discussion – 30% of grade

A Pass represents achievement of at least the minimum standard for the industry and for which apprentices have achieved all the knowledge and skills required within the standard and demonstrated a consistent level of behaviours. To achieve a pass or higher grade the apprentice must achieve a minimum of a pass in each of the EPA components. The following table provides the percentage marks to be achieved for each grade for each component of the standard.

EPA COMPONENT	PASS	MERIT	DISTINCTION
	Full competence against the standard	Performance above the standard	Performance significantly above the standard
Online test	≥75 <80	≥80 <85	≥85 - 100
Project	≥50 <60	≥60 <70	≥70 - 100
Professional discussion	≥50 <60	≥60 <70	≥70 - 100
OVERALL GRADE with the above weightings applied for each element)	≥55%-<64%	≥64%--<73%	≥73%-100%

The Appendix provides the criteria for each of the grades for each element of the EPA. The final grade will the be decided by applying the above weighting to the online test mark and average marks given by the two assessors for the project and the professional discussion.

Example

An apprentice gains 80% for their online test, an average mark of 60% for their project and an average mark of 70% for their professional discussion. These would then be weighted as follows:

80% x20% for the test = 16%

60% x 50% for project = 30%

70%x 30% for professional discussion = 21%

Total = 67% = Overall Merit for the EPA

Where an apprentice fails the online test this may be retaken/resat up to three times. Where an apprentice fails either the project and/or the professional discussion they may retake/resit the relevant component (s) once and this must be retaken/resat within a 3 month period. Where an apprentice retakes/resits a component the apprentice can only be awarded a maximum grade of a pass for the apprenticeship. Retakes/resits will not be allowed to improve the apprenticeship grade (other than fail to pass).

End-point – Summary of roles and responsibilities	
Stakeholder	**Role**
Employer	• Decides when the apprentice is ready for end point assessment
Training provider	• Supports the employer on deciding if the apprentice is ready for the EPA gateway • Supports the employer in contacting IAO • Monitors the performance of the apprentice during the degree
IAO	• Delivers and assesses the EPA • Conducts internal quality assurance • Develops assessment processes and specifications based on the standard • Develops assessment tools, materials and resources • Registers apprentices for the EPA • Manages assessment arrangements to enable apprentices to submit assessment documents • Arranges retakes/resits of assessments for apprentices who fail the EPA and provides feedback to the employer • Develops and implements an appeals process
Professional bodies	• Conduct external quality assurance of EPA – ICES to be lead organisation for external quality assurance • Conduct quality assurance and recognition of degree

Quality Assurance – internal

The IAO will internally provide quality assurance by:

- Providing assessor training at least once a year
- Arranging new assessors to undertake mock assessments
- Sampling of assessment decisions. A minimum of 20% of assessment decisions to be sampled. Sampling should be of all elements of the entire process of assessment including submissions and assessor feedback and should be used to review consistency of feedback and approach by assessors
- Requiring assessors to attend at least one standardisation event per year and delivering the standardisation events

- Undertaking moderation of assessment decisions. The method used must ensure consistency of grading between assessors. Moderation should review all marks by all assessors to enable consideration of the overall standard and to enable comparison of the grading standards applied by different assessors and for different components of the EPA
- Adopting a performance management process for assessors and using training to address poor performance
- Undertaking annual performance appraisals of assessors
- Appointing internal verifiers

Quality Assurance – external

The professional body approach has been chosen for the external quality assurance. External quality assurance will be conducted on a non-profit basis by the RICS and the ICES in partnership. ICES will be the lead organisation and will draw on the services of the RICS and oversee their input into the EQA model. ICES will be the main point of contact.

Implementation

The costs of this apprenticeship have taken into account the range and diversity of employers within the sector and the number of smaller businesses who are likely to employ apprentices.

Affordability was considered by the adoption of an online test and the use of online platforms for online professional discussions. This will also ensure feasibility of delivery across England and for apprentices in more remote locations. The cost of the EPA will be no more than 20% of the overall apprenticeship. The funding band is awaiting confirmation. The direct costs of end point assessment will include:

- Access to online test
- 1 day of the cost of two assessors (1 day being spread over the components of the EPA)
- Venue for professional discussion (when face to face)
- External quality assurance

Professional body recognition:

Following successful completion (Pass or higher) of the EPA, apprentices will become eligible to apply for chartered status with the RICS or Member of the ICES.

Consistency:

Due to the nature of the EPA this will be deliverable across England and will be applicable to all employers regardless of their size. There are opportunities for assessment to be undertaken virtually which will ensure that the apprenticeship can be delivered across the different regions of England. Research has indicated sufficient numbers of assessors to assess the anticipated volume of apprentices. Management and feasibility was key to the development of this EPA Plan and the Plan presented offers the most viable and flexible solution whilst ensuring professional body recognition.

Volumes

It is anticipated that there will be approximately 15 starts in the first year and 50 starts per year once the apprenticeship is fully established.

APPENDIX A – FLOWCHART OF EPA PROCESS

- Successful achievement of RICS/ICES accredited BSc/BSc(Hons)
- Satisfactory completion of knowledge, skill and behaviours set out in the apprenticeship standard
- Successful achievement of Level 2 English and Maths
- Employer confirmation and request for End Point Assessment

- Apprentice submits Project proposal to IAO for approval
- One assessor reviews proposal and provides feedback to apprentice advising whether the project is suitable
- Apprentice starts summary of experience

- Apprentice takes a 20 question online multiple choice test
- Test is computer marked

- Apprentice provides a 3000 Project report
- Two assessors review, assess and grade the Project report

- Apprentice provides a 5500 word summary of experience
- Two assessors review the summary and assess it and agree areas to be explored and questions to ask in the professional discussion

- 60 minute professional discussion with two assessors either online or face to face

- Assessors submit grade for the professional discussion
- Percentage marks for each component are weighted and combined to determine final grade

APPENDIX B – MAPPING OF EPA METHODOLOGY TO STANDARD

CORE KNOWLEDGE TO BE ASSESSED	ONLINE TEST	PROJECT	PROFESSIONAL DISCUSSION
Cadastre (land boundaries) and land management Field and office procedures for boundary and/or cadastral surveys. Understand legal and physical land boundaries and legal title		✓	✓
Advanced geospatial technology The principles of geospatial technologies including remote sensing, laser scanning and Geographic Information Systems		✓	✓
Advanced mapping and measurement Primary data capture techniques and the importance of accuracy and precision. Electronic Distance Measurement, automatic levels, lasers and other instrumentation		✓	✓
Geospatial data management and analysis How to analyse and manage geospatial data. Interpretation of plan and map data and legal documents. Holding, retrieving and security of data.		✓	✓
Geodesy The principles of geodesy including co-ordinate systems, transformations, projections, datums and their importance		✓	✓
Health and safety How to ensure safe and secure working environments for self and others and the principles of managing risk.		✓	✓
Law of land and sea The law and regulations and the role of legal advisers relating to land and sea		✓	✓
Sustainability How to embed sustainability into your work and best practice principles including the principles of 'One Planet Living', balancing economic, environmental and social objectives, minimising energy use, using sustainable consumables, use of appropriate equipment to minimise carbon emissions		✓	✓
Personal effectiveness Understanding client requirements, how to supervise tasks and others, safety and conflict avoidance. How to manage projects and tasks to specified programmes, targets and budgets	✓		

OPTIONAL KNOWLEDGE TO BE ASSESSED ONE OF THE FOLLOWING			
Geospatial Engineering Understanding of the principles of setting out, 3 dimensional machine control, deformation monitoring, drawings and plans		✓	✓
Hydrography Understand the principles and limitations of hydrographic survey including methods of collection, analysis, quality control and processing and presentation of hydrographic data		✓	✓
Utilities Understanding of the law, regulation and geospatial data requirements for organisations owning or operating a networked infrastructure		✓	✓
Geospatial surveying Understand how to specify, plan and undertake surveys using appropriate instrumentation.		✓	✓

CORE SKILLS TO BE ASSESSED	ONLINE TEST	PROJECT	PROFESSIONAL DISCUSSION
Cadastre (land boundaries) and land management Undertake and manage boundary and/or cadastral surveys adopting appropriate scales and selecting appropriate supporting documentation. Use and interpret aerial photography and digital imagery.		✓	✓
Advanced geospatial technology Identify, assess and source datasets from a range of technologies (including laser scanning, remote sensing and Geographic Information Systems) to meet client requirements and assess quality and fitness for purpose		✓	✓
Advanced mapping and measurement Use the primary data capture techniques ensuring accuracy and precision, use appropriate co-ordinate systems, datums, transformations and projections.		✓	✓
Geospatial data management and analysis Analyse and manage geospatial data including plan, map and legal data and ensure security of data. Retrieve and analyse data from manual and electronic sources.		✓	✓
Health and safety Ensure safe and secure working environments and manage risk appropriately		✓	✓
Law of land and sea Apply law and regulations relating to land and/or sea and ensure compliance		✓	✓
Sustainability Manage activities in a way that contributes positively to sustainability and implements best practice. Apply the principles of 'One Planet Living' to your work and appropriately balance social, economic and environmental objectives.		✓	✓
Personal effectiveness Respond appropriately to client requirements, supervise tasks and others, adopt a strong safety culture and ensure effective conflict avoidance. Effectively manage projects and tasks to specified programmes, targets and budgets and show independent judgement and responsibility		✓	✓

OPTIONAL SKILLS TO BE ASSESSED **ONE OF THE FOLLOWING**			
Geospatial engineering Undertake setting out, prepare data for 3 dimensional machine control, deformation monitoring and as built surveys and analyse construction drawings and plans		✓	✓
Hydrography Undertake hydrographic surveys including assessment of survey requirements, equipment specifications and suitability, taking responsibility for the survey works in accordance with the approved specification, evaluating and presenting survey findings and advising clients		✓	✓
Utilities Collect appropriate, accurate, geospatial data for organisations owning or operating a networked infrastructure		✓	✓
Geospatial surveying Specify, plan and undertake surveys using appropriate instrumentation. Evaluate information and explain complex survey issues to clients.		✓	✓

BEHAVIOURS TO BE ASSESSED	ONLINE TEST	PROJECT	PROFESSIONAL DISCUSSION
Provide a high standard of service Provide the best possible advice, support or performance of agreed terms of engagement with attention to detail. Show commitment to Continuing Professional Development for self and others		✓	✓
Act in a way that promotes trust in the profession Act in a professional and positive manner at all times		✓	✓
Treat others with respect Treat everyone with courtesy, politeness and respect and consider cultural sensitivities and business practices			✓
Take responsibility Always act with skill, care and diligence and deal with any complaint in an appropriate professional manner.		✓	✓
Act with integrity Always be trustworthy, open and transparent. Respect client confidentiality and provide professional, unbiased advice		✓	✓

APPENDIX C

GRADING CRITERIA

	FAIL	PASS	MERIT	DISTINCTION
ONLINE TEST (20% of overall grade)	< 75	≥75 <80	≥80 < 85	≥85 - 100
PROJECT (50% of overall grade)	<50	≥50 <60	≥60 <70	≥ 70 - 100
	Fails to provide sufficient evidence of all the knowledge, skills and behaviours being assessed by this method	Provides evidence of all the knowledge, skills and behaviours being assessed by this method Well structured and presented report using clear headings and sections Identifies a key issue Discusses the key options or challenges of the project Makes efforts to reflect and analyse their performance and lessons learnt	Meets the pass criteria and also: Effectively analyses and interprets knowledge being assessed by this method to inform solutions Uses skills being assessed by this method to appraise options Provides a good reflective account of the project Demonstrates learning from experience	Meets the pass and merit criteria and also: Critically appraises knowledge relevant to the project Extensively applies skills being assessed by this method to the project and to evaluate options The report follows a clear and logical sequence throughout and is articulate and fluent with a robust conclusion

		Complies with maximum word length of 3000 words (subject to 10% tolerance either way) Use of appropriate professional and technical language Shows analysis of the outcome of the project Recommends a viable solution to the key issue	Analyses options Clearly articulates the rationale for decisions made Works independently	Evaluates all options, solutions and challenges Provides a reflective critical analysis of the project Exercises initiative and personal responsibility
Professional discussion (30% of overall grade)	<50	≥50 <60	≥60 <70	≥70 to 100
	Fails to provide sufficient evidence of all the knowledge, skills and behaviours being assessed by this method	Provides evidence to demonstrate all the knowledge, skills and behaviours being assessed by this method Is able to clarify information provided relating the summary of experience	Meets the pass criteria and also: Analyses knowledge being assessed by this method to provide solutions and shows conceptual understanding Accurately responds to questions	Meets the pass and merit criteria and also: Evaluates and critically appraises knowledge to provide solutions Critically evaluates arguments to make judgements and to achieve solutions

		Satisfactorily validates the information provided in the summary of experience Shows awareness of the rationale for their actions and those of others Shows the ability to reflect on experience	Develops and sustains arguments and shows the ability to solve problems Uses examples of the use of skills being assessed by this method to support answers to questions Supplements information in the summary with additional information when appropriate to do so Clearly articulates the rationale for actions and decisions made Clearly demonstrates reflective learning	Uses an extensive range of relevant examples of the use of skills being assessed by this method to support answers to questions Evaluates information in order to make decisions Assimilates and synthesises information Takes action to address reflection on learning

APPENDIX D

EXAMPLE TEMPLATE FOR THE SUMMARY OF EXPERIENCE

The Summary of Experience should reflect the role and level of the activities undertaken by the apprentice

CORE KNOWLEDGE	APPRENTICE STATEMENT OF HOW KNOWLEDGE HAS BEEN GAINED (approximately 200 words per area of knowledge)	EXAMPLES OF WORK TASKS UNDERTAKEN THAT HAVE USED THIS KNOWLEDGE (approximately 50 words per area of knowledge)
Cadastre (land boundaries) and land management Field and office procedures for boundary and/or cadastral surveys. Understand legal and physical land boundaries and legal title		
Advanced geospatial technology The principles of geospatial technologies including remote sensing, laser scanning and Geographic Information Systems		
Advanced mapping and measurement Primary data capture techniques and the importance of accuracy and precision. Electronic Distance Measurement, automatic levels, lasers and other instrumentation		
Geospatial data management and analysis How to analyse and manage geospatial data. Interpretation of plan and map data and legal documents. Holding, retrieving and security of data.		

Geodesy The principles of geodesy including co-ordinate systems, transformations, projections, datums and their importance		
Health and safety How to ensure safe and secure working environments for self and others and the principles of managing risk.		
Law of land and sea The law and regulations and the role of legal advisers relating to land and sea		
Sustainability How to embed sustainability into your work and best practice principles including the principles of 'One Planet Living', balancing economic, environmental and social objectives, minimising energy use, using sustainable consumables, use of appropriate equipment to minimise carbon emissions		
OPTIONAL KNOWLEDGE TO BE ASSESSED ONE OF THE FOLLOWING		
Geospatial Engineering Understanding of the principles of setting out, 3 dimensional machine control, deformation monitoring, drawings and plans		

Hydrography Understand the principles and limitations of hydrographic survey including methods of collection, analysis, quality control and processing and presentation of hydrographic data		
Utilities Understanding of the law, regulation and geospatial data requirements for organisations owning or operating a networked infrastructure		
Geospatial surveying Understand how to specify, plan and undertake surveys using appropriate instrumentation.		

CORE SKILLS	**APPRENTICE STATEMENT OF HOW SKILL HAS BEEN ACHIEVED (approximately 200 words per skill)**	**EXAMPLES OF WORK TASKS UNDERTAKEN AND ANY EQUIPMENT OR INSTRUMENTS USED (approximately 50 words per skill)**
Cadastre (land boundaries) and land management Undertake and manage boundary and/or cadastral surveys adopting appropriate scales and selecting appropriate supporting documentation. Use and interpret aerial photography and digital imagery.		
Advanced geospatial technology Identify, assess and source datasets from a range of technologies (including laser scanning, remote sensing		

and Geographic Information Systems) to meet client requirements and assess quality and fitness for purpose		
Advanced mapping and measurement Use the primary data capture techniques ensuring accuracy and precision, use appropriate co-ordinate systems, datums, transformations and projections.		
Geospatial data management and analysis Analyse and manage geospatial data including plan, map and legal data and ensure security of data. Retrieve and analyse data from manual and electronic sources.		
Health and safety Ensure safe and secure working environments and manage risk appropriately		
Law of land and sea Apply law and regulations relating to land and/or sea and ensure compliance		
Sustainability Manage activities in a way that contributes positively to sustainability and implements best practice. Apply the principles of 'One Planet Living' to your work and appropriately balance social, economic and environmental objectives.		

Personal effectiveness Respond appropriately to client requirements, supervise tasks and others, adopt a strong safety culture and ensure effective conflict avoidance. Effectively manage projects and tasks to specified programmes, targets and budgets and show independent judgement and responsibility		
OPTIONAL SKILLS TO BE ASSESSED **ONE OF THE FOLLOWING**		
Geospatial engineering Undertake setting out, prepare data for 3 dimensional machine control, deformation monitoring and as built surveys and analyse construction drawings and plans		
Hydrography Undertake hydrographic surveys including assessment of survey requirements, equipment specifications and suitability, taking responsibility for the survey works in accordance with the approved specification, evaluating and presenting survey findings and advising clients		

Utilities Collect appropriate, accurate, geospatial data for organisations owning or operating a networked infrastructure		
Geospatial surveying Specify, plan and undertake surveys using appropriate instrumentation. Evaluate information and explain complex survey issues to clients.		

BEHAVIOURS	STATEMENT OF HOW BEHAVIOUR HAS BEEN DEMONSTRATED THROUGH LEARNING AND WORK EXPERIENCE (approximately 200 words per behaviour)	EXAMPLES OF WHERE BEHAVIOUR HAS BEEN ADOPTED (approximately 50 words per behaviour)
Provide a high standard of service Provide the best possible advice, support or performance of agreed terms of engagement with attention to detail. Show commitment to Continuing Professional Development for self and others		
Act in a way that promotes trust in the profession Act in a professional and positive manner at all times		
Treat others with respect Treat everyone with courtesy, politeness and respect and consider cultural sensitivities and business practices		
Take responsibility Always act with skill, care and diligence and deal with any complaint in an appropriate professional manner.		
Act with integrity Always be trustworthy, open and transparent. Respect client confidentiality and provide professional, unbiased advice		