THE OPERATIONAL RESEARCH SOCIETY

OR Society Specification for the

Level 7 End-Point Assessment

for Operational Research Specialist

(ST0884 V1.1)

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Contents

Introduction

Occupation summary

This occupation is found in organisations of all sizes, including businesses across all industry sectors, government and other public sector bodies. These sectors include but are not limited to: Engineering, Government, Banking, Health, Telecommunications, Defence, Management Consulting, Transport, and Education. The broad purpose of the occupation is to help clients (either internally or externally) to make strategic, tactical and operational decisions by using advanced analytical methods to understand and solve complex non-routine problems. The benefits of Operational Research include a wide range of performance improvements such as reducing costs, increasing revenue, saving lives, raising levels of customer service and designing public policy.

Operational Research Specialists work with their clients and other interested parties to provide an end-to-end service from diagnosing and analysing a problem to making recommendations for change and supporting implementation.

Typically, Operational Research Specialists will structure complex non-routine problems and formulate specific research questions. They will address these questions by evaluating and implementing approaches from the range of existing models, methods and techniques, developing and adapting these methods and adopting methods from other fields where existing approaches are insufficient. In their daily work, an employee in this occupation interacts with their team, operational and policy experts and managers in the systems and processes they are analysing.

They also interact with senior stakeholders (where relevant) and other specialists such as economists, data scientists, social scientists, management and financial accountants and data and information providers. In addition, they will interact with groups and organisations such as communities of practice, local and central governments, businesses, regulators, academics, researchers and non-technical audiences, both nationally and internationally.

An Operational Research Specialist will work independently or collaboratively as required, reporting to internal or external clients at almost any level of an organisation. A typical day may include overseeing and conducting analysis, meeting clients, managing projects, leading teams and commissioning work from others.

An employee in this occupation will be responsible for understanding and resolving a complex non-routine problem to meet their clients' requirements. The Operational

Research Specialist has a high degree of autonomy and accountability for their work. They are unlikely to have detailed subject matter expertise. Therefore, they will collaborate with specialists and experts to understand the organisation, its systems and processes. Following this, they will select appropriate Operational Research method(s), identify & obtain data, carry out rigorous analysis, quality assuring their & others' work.

A key part of their role is communicating their impartial, pragmatic analysis and recommendations with impact, together with its limitations and associated risks. In some cases, they will support the implementation of their recommendations and monitor their effectiveness.

An Operational Research Specialist will plan and manage their projects and may also commission research, manage budgets, supervise staff and contractors, and identify opportunities where Operational Research can help.

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The Apprentices Journey

Choosing your programme and training provider

- See the Gov.uk Find An Apprenticeship page for more information and/or to locate potential apprenticeship opportunities within your area.
- Apprentices need to live and/or work in England to be eligible for their employer to
- utilise their levy funding.

Completing on programme activities

- The typical duration for this stage of the standard is 24 months
- Apprentices will develop the knowledge, skills, and behaviours (KSBs) of the occupational standard. During this time, apprentices without level 2 English and maths will need to be training to achieve this level. For those with an education, health and care plan or a legacy statement, the apprenticeship's English and maths minimum requirement is Entry Level 3. A British Sign Language (BSL) qualification is an alternative to the English qualification for those whose primary language is BSL.
- Towards the end of their on-programme activities, apprentices will need to have completed their portfolio of evidence.

Gateway

- Gateway is the point of the journey where apprentices move from completing their training and learning to showcasing their knowledge, skills, and behaviours (KSBs) within the occupational standard through end-point assessment (EPA)
- An apprentice, the employer and the training provider must be in agreement that an apprentice is working at or above the occupational standard and is ready undertake their EPA
- An apprentice must have achieved the English and maths requirements and completed all tasks relevant to the EPA assessment methods i.e. work practice on which the work-based project report with presentation will be undertaken and portfolio of evidence
- The work-based project report with presentation proposal (including scope and title) is agreed with the Society

Undertaking EPA

- EPA is the final stage of an apprenticeship. It is where an apprentice will be tested by an impartial assessor to determine whether they have developed the knowledge, skills, and behaviours outlined in the occupational standard
- EPA cannot start until after the Society, as the EPAO, has confirmed that all Gateway requirements have been met
- The assessment methods for the Level 7 Operational Research Specialist apprenticeship standard are:
- Assessment method 1: Work-based project report with presentation
- Assessment method 2: Professional discussion underpinned by a portfolio of evidence
- Assessment method 3: Multiple Choice QuestionTest

Please note that the Institute for Apprenticeships and Technical Education (IfATE) applied a temporary dispensation to the standard on 18th December 2024 which will remain in place until it is revised.

The dispensation removes assessment method 3, the MCQ Test, from the EPA.

The knowledge statements K1,2,3,4,5,6,7 and 8 aligned to the MCQ test are now assessed in assessment method 1, the work-based project report and presentation. The mapping of these knowledge statements to assessment method 1 can be found here.

Reasonable Adjustment Policy

We recognise that in agreed and specified instances, certain apprentices may require alternative arrangements to access a fair end-point assessment. Any request for reasonable adjustment must be made in line with The OR Society Reasonable Adjustments and Special Consideration Policy which can be located on ACE360 or requested from The OR Society.

We are committed to complying with all current and relevant legislation in relation to the development and delivery of EPA, which at the time of writing includes, but is not limited to, the Equality Act 2010. We seek to uphold human rights relating to race relations, disability discrimination and special educational needs of its learners and to provide equal reasonable adjustments for all apprentices registered on the EPA.

Assessment should be a fair test of an apprentice's knowledge and what they are able to do. For some apprentices the usual format of assessment may not be suitable. The OR Society ensures that the design and delivery of the assessments do not prohibit/ limit apprentice access to assessment.

The Society recognises that reasonable adjustments may be required at the time of assessment where an apprentice:

- Has a permanent or long-standing disability, illness, or special educational need, for example blindness, diabetes, dyslexia
- Has a temporary disability, illness or indisposition, for example, broken arm, acute pain

The provision for reasonable adjustments is made to ensure that an apprentice receives recognition of their achievement, so long as the equity, validity and reliability of the assessments can be assured. Such arrangements are not concessions to make assessment easier for an apprentice, nor advantages to give an apprentice a head start.

Apprentices and employers should be made aware of the Reasonable Adjustments and Special Consideration Policy at the beginning of their programme.

Language of Assessment

Apprentices must use English only during the assessment of this EPA. An apprentice may be assessed in British Sign Language for the purpose of reasonable adjustment.

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End-point assessment methods

The EPA for the Level 7 Operational Research Specialist is made up of a portfolio of evidence submitted **at gateway** and a work-based project with presentation proposal (including scope and title) which must be signed off **at gateway**.

A work-based project report and presentation must be created post gateway during the EPA period and the presentation assessment and the professional discussion will be conducted during the EPA period. These are the compulsory elements of the standard. These can only be assessed once the requirements of the Gateway have been met.

The apprentice will be given three weeks to complete and submit the work-based project report following approval of the report scope and title at Gateway.

The presentation content will be completed and submitted to us no later than three weeks after the project report submission. We will provide apprentices with a minimum of two weeks' notice prior to the presentation being delivered to ensure that they have sufficient notice for preparation.

We will provide apprentices with two weeks' notice prior to the professional discussion taking place and will provide the independent assessor with two weeks to review the portfolio (which is submitted at Gateway) prior to the discussion.

The assessment methods can be delivered in any order as the result of one assessment method does not need to be known before starting the next.

The OR Society will use Microsoft Teams to conduct the presentation and professional discussion assessments and will make arrangements for recording the presentation and professional discussion assessment methods which must be agreed by employers.

Work-based project report with presentation requirements

Work-based project report

During the programme, apprentices will carry out a range of practical work-based projects. The apprentice's employer will support them in identifying one of the projects on which to base their project report and presentation.

The apprentice's employer must be satisfied that the apprentice's on-programme practice is sufficient for the requirements set out in the EPA assessment plan.

The apprentice will draft a proposal for the work-based project report which is agreed with the employer and submitted at gateway. This proposal will include the scope and title of the work-based project report and a summary of the work practice covered by the project, and an overview of the apprentice's tasks and responsibilities.

We must approve the project report proposal (including scope and title) at Gateway. The proposal must be submitted for approval using the OR Society proforma (available to download from ACE360). Following approval, the apprentice will have three weeks to complete and submit the work-based project report.

The project report may be based on any of the following type of projects that the apprentice was directly involved in pre-gateway:

- a specific problem impacting the operational function of an organisation
- a recurring issue impacting the operational function of an organisation
- an idea/opportunity to improve operational delivery/efficiency of an organisation

The work-based project report content should include (but need not be limited to) the following topics:

- Description of the operational research issue(s) and its context.
- Objectives of the work practice on which the project is based.
- Chosen methods, methodology(ies) and rationale.
- Summary of the tasks and responsibilities undertaken by the apprentice.
- Discussion of challenges and barriers experienced or observed, and actions taken by the apprentice.
- Evaluation of how far the project objectives were met.
- Summary of the tasks and responsibilities undertaken by the apprentice.

The word could for the report is 8,000 words +/- 10%; appendices, annexes, references, diagrams etc. will not be included in this total.

Presentation

The presentation must focus on the project report and the apprentice will decide the nature and focus of their presentation. The assessment plan sets out that as a guideline, two or more of the following may be of greater relevance dependent on the nature of the project.

- description of the context and issue(s) they addressed and why it is appropriate to use operational research to address the issue(s)
- how they chose their analytical methods and the reasons for their choice
- the tasks and responsibilities the apprentice undertook, how they scheduled and managed this project
- the challenges and obstacles they faced during the course of the project and how they addressed them
- how they communicated, and the impact of, their findings and results
- how they quality assured their work
- reflections on the project (methods and process) including how it informs their practice

The presentation content will be completed and submitted to us no later than three weeks after the project report submission.

We will provide the apprentice with a minimum of two weeks' notice prior to the presentation being delivered to ensure there is sufficient notice for the apprentice to prepare.

We will provide the presentation content to the independent assessor at least two weeks prior to the assessment date to allow sufficient time to review it and prepare appropriate questions.

Apprentices must complete the assessment in a private and suitably controlled environment, free from distractions and influence. For example, this may be a private quiet room with a closed door at your workplace or your home. No one else is permitted in the room while the assessment is being taken.

The presentation will be conducted remotely using Microsoft Teams and the apprentice will need to have access to:

- a computer
- audio visual presentation equipment
- a flip chart and writing and drawing materials

At the start of each assessment the independent assessor will verify the apprentice's identity and ask for a 360-degree check of the room to ensure that it is a suitable environment for the assessment.

In order to verify the apprentice's identity (ID) your independent assessor will need to see photo ID in the form of:

- a valid passport (any nationality),
- a signed UK photo card driving licence,
- valid warrant card issued by HM Forces or the Police,
- other photographic ID card, e.g., employee ID card (must be current employer).

If the assessment is taking place in the apprentices' place of work and they are unable to supply any of the above, authentication of their identity by a third-party representative, for example their line manager or a member of their workplace Human Resources Team can be accepted.

The presentation will be conducted remotely using Microsoft Teams and the apprentice will need to have access to:

- a computer
- audio visual presentation equipment
- a flip chart and writing and drawing materials

The duration of the presentation is 60 minutes with the presentation typically lasting 15 minutes and the questioning stage 45 minutes. The independent assessor has the discretion to increase both the time of the presentation and the questioning by up to 10% to allow the apprentice to complete their last point.

The independent assessor will ask a minimum of six pre-planned questions at the end of the presentation and use supplementary questions as required within the overall time period permitted. The independent assessor will review and assess the project report holistically together with the presentation and make all grading decisions.

Professional Discussion underpinned by a portfolio of evidence

During the apprenticeship programme, the apprentice will be building a portfolio of work-based evidence that is submitted to the Society at gateway.

The portfolio of evidence is reviewed by the independent assessor in preparation for the professional discussion. It is not assessed by us and there is no requirement to mark the portfolio or provide feedback after the review.

Portfolio of evidence requirements:

- apprentices must compile a portfolio of evidence during the on-programme period of the apprenticeship
- it must contain evidence related to the KSBs that will be assessed by the professional discussion
- the portfolio should include an example of coding (by programming, scripting, coding or using spreadsheet) constructed by the apprentice
- the portfolio of evidence will typically contain 20 discrete pieces of evidence
- evidence must be mapped against the KSBs
- evidence may be used to demonstrate more than one KSB; a qualitative as opposed to quantitative approach is suggested
- evidence sources may include:
    - workplace documentation/records, for example workplace policies/procedures, records
    - witness statements
    - annotated photographs
    - video clips (maximum total duration 15 minutes); the apprentice must be in view and identifiable

This is not a definitive list; other evidence sources are possible.

- it should not include reflective accounts or any methods of self-assessment
- any employer contributions should focus on direct observation of performance (for example witness statements) rather than opinions
- the evidence provided must be valid and attributable to the apprentice; the portfolio of evidence must contain a statement from the employer and apprentice confirming this
- the portfolio of evidence must be submitted to us at Gateway

The apprentice will be given a date for the professional discussion a minimum of two weeks' notice prior to the assessment being delivered to ensure there is sufficient notice for the apprentice to prepare. The independent assessor conducting the professional discussion will have access to the portfolio for review two weeks before the date of the assessment.

The duration of the professional discussion is 90 minutes with an allowance of + 10% to allow the apprentice to complete their final answer.

Professional discussions will be conducted remotely using Microsoft Teams. Apprentices must complete the assessment in a private and suitably controlled environment, free from distractions and influence. For example, this may be a private quiet room with a closed door at your workplace or your home. No one else is permitted in the room while the assessment is being taken.

At the start of each assessment the independent assessor will verify the apprentice's identity and ask for a 360-degree check of the room to ensure that it is a suitable environment for the assessment.

In order to verify the apprentice's identity (ID) the independent assessor will need to see photo ID in the form of:

- a valid passport (any nationality),
- a signed UK photo card driving licence,
- valid warrant card issued by HM Forces or the Police,
- other photographic ID card, e.g., employee ID card (must be current employer).

If the assessment is taking place in the apprentices' place of work and they are unable to supply any of the above, authentication of their identity by a third-party representative, for example their line manager or a member of their workplace Human Resources Team can be accepted.

The topics and themes that must be covered in the discussion are:

- The history of operational research & the relevance to current practice
- Understanding and application of coding to operational research problems
- How business & organisational landscapes influence operational research
- The importance of professional practice, ethics and resilience
- Continuous professional development of self & others
- How to communicate with clients in a clear and unbiased manner

The independent assessor will select six opening questions (one per theme) and will use additional follow-up questions to allow the apprentice the best opportunity to evidence their competence.

Overall EPA grading

All assessment methods are weighted equally in their contribution to the overall EPA grade. Performance in the EPA will determine the apprenticeship grade of fail, pass, merit or distinction.

Independent assessors will individually grade each assessment method, according to the requirements set out in assessment plan. We will then combine the individual assessment method grades to determine the overall EPA grade.

Apprentices who fail one or more assessment method/s will be awarded an overall EPA 'fail'.

In order to gain an overall EPA 'pass', apprentices must achieve a pass in each assessment method.

In order to achieve an overall EPA 'merit', apprentices must achieve a combination of a pass in one assessment method and a distinction in the other assessment method.

The only way of attaining an overall 'distinction' is by apprentices achieving a distinction in both assessment methods.

Grades from individual assessment methods should be combined in the following way to determine the grade of the EPA as a whole:

Assessment method 1 **Work Based Project report and presentation**	**Assessment method 2** **Professional Discussion**	**Overall grading**
Fail	Any grade	Fail
Any grade	Fail	Fail
Pass	Pass	Pass
Distinction	Pass	Merit
Pass	Distinction	Merit
Distinction	Distinction	Distinction

Special Consideration

Special consideration can be applied after an assessment if there was a reason the apprentice may have been disadvantaged during the assessment.

For example, special consideration could apply to an apprentice who had temporarily experienced an illness or injury or some other event outside of their control which has had, or is likely to have had, a material effect on the apprentice's ability to take an assessment or demonstrate his or her level of attainment in an assessment.

Special consideration should not give the apprentice an unfair advantage. The apprentice's result must reflect his or her achievement in the assessment and not necessarily his or her potential ability.

Any request for special consideration must be made in line with the OR Society's Reasonable Adjustments and Special Consideration Policy which can be located on ACE360 or can be requested from The OR Society by emailing epao@theorsociety.com

Requests for special consideration received after the result of assessment has been issued will only be accepted when medical evidence comes to light about a learner's condition, which demonstrates that the learner must have been affected by the condition at the time of the assessment, even though the problem revealed itself only after the assessment.

If the application for special consideration is successful, the apprentice's performance will be reviewed in the light of available evidence. It should be noted that a successful application of special consideration will not necessarily change an apprentice's result.

Appeals

We will ensure that all assessment decisions are fair, consistent and based on valid judgement.

However, where the outcome of an EPA does not meet the expectations of the apprentice, please refer to The OR Society's Enquiries about Results and Appeals policy. This document is located on the ACE360 system or can be requested from The OR Society by emailing epao@theorsociety.com

Re-sits and Retakes

Apprentices who fail one or more assessment method/s will be offered the opportunity to take a re-sit or a re-take at the employer's discretion. The apprentice's employer will need to agree that either a re-sit or re-take is an appropriate course of action.

A re-sit does not require further learning, whereas a re-take does.

Apprentices should have a supportive action plan to prepare for a re-sit or a re-take.

The timescales for a re-sit/re-take are agreed between us and the apprentice's employer. A re-sit is typically taken within three months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within four months of the EPA outcome notification.

All assessment methods must be taken within a 10-month period, otherwise the entire EPA will need to be re-sat/re-taken. (i.e. six months typical EPA period plus three or four months for re-sit/re-take = 10-month total period).

Re-sits and re-takes are not offered to apprentices wishing to move from pass to a higher grade.

Where any assessment method has to be re-sat or re-taken, the apprentice will be awarded a maximum EPA grade of pass, unless we determine there are exceptional circumstances requiring a re-sit or re-take.

Please refer to The OR Society's Re-sit and Retake Policy which is located on the ACE360 system or can be requested from The OR Society by emailing epao@theorsociety.com

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Appendix One – Mapping of knowledge, skills and behaviours (KSBs)

Assessment method 1: Work-based project report and presentation

Knowledge
K17: The techniques for managing client relationships from project initiation to closure.
K18: Project management principles and techniques; including people, risk, financial controls and budgets.
K19: How to translate information, insights and recommendations into client focused reports and presentations.
K23: The concepts of team dynamics and its relevancy to solving Operational Research problems. How to use this to create, lead and manage high performing and collaborative teams.
K24: The principles and techniques of quality assurance. This includes model structure and clarity, validation & verification, recording data sources, assumptions and documentation.
K25: How to balance actions and benefits that meet client needs with policy, legal, codes of practice and funding requirements.

Skills
S1: Structure a client's problem using a relevant informal or formal methodology.
S2: Conceptualise complex client problems into tractable operational research questions.
S3: Critically evaluate and synthesise data relevant to the client problem (including data provenance, scope and limitations).
S4: Manipulates, interrogate and manage raw data, using relevant methodology.
S5: Undertake exploratory data analysis. This includes identifying relationships, robustness and quality, covering both model generated data and external information sources.
S6: Exercise judgement by selecting the appropriate technique to design an approach to a client's problem.
S7: Use relevant software solutions to support the analysis of a client's problem.
S12: Source and use relevant internal/external technical expertise necessary to address the client's problem.

S13: Use appropriate methodologies to manage complex client relationships.
S14: Strategically manage all variables necessary to deliver timebound Operational Research recommendations. This includes, but is not limited to, people, risk, financial controls and budgets.
S16: Translate complex landscapes into client focused communications that balance rationale for recommendations with project limitations & compliance.
S19: Use concepts of team dynamics to create, lead and manage high performing and collaborative teams.
S20: Operate autonomously within the limits of own authority and responsibility.
S21: Design and implement strategic approaches that motivates team members to achieve objectives.
S23: Validate quality by application of relevant quality assurance methodology.

Behaviours
B1: Adapts approach to meet client needs, whilst avoiding over-attachment to pre-determined or expected outcomes.
B2: Actively utilises diverse networks to enhance Operational research outcomes.
B4: Delivers client centric outcomes.
B6: Adopts an analytical mindset to the client's problem.
B7: Seeks out proportionate and pragmatic response to client issues

Knowledge Statements for Assessment Method 3: Test from 18th December 2024 are now mapped to Assessment method 1: Work-based project report and presentation as per the below:

Knowledge statement	Corresponding Skill Statement(s)
K1: How to select and apply, a range of problem structuring methods to understand complex problems.	**S1**: Structure a client's problem using a relevant informal or formal methodology.
K2: How to establish and scope client requirements into clear analytical questions.	**S2**: Conceptualise complex client problems into tractable operational research questions.
K3: The comparative strengths and weaknesses of informal and formal methods used to structure problems.	**S1**: Structure a client's problem using a relevant informal or formal methodology.
K4: The approaches used to identify and obtain potentially useful data (including their provenance, scope and limitations).	**S4**: Manipulates, interrogate and manage raw data, using relevant methodology.
K5: How to manipulate, interrogate and manage raw data.	**S3**: Critically evaluate and synthesise data relevant to the client problem (including data provenance, scope and limitations). **S4**: Manipulates, interrogate and manage raw data, using relevant methodology.
K6: How to conduct exploratory data analysis. This includes identifying relationships, robustness and quality, covering both model generated data and external information sources.	**S5**: Undertake exploratory data analysis. This includes identifying relationships, robustness and quality, covering both model generated data and external information sources.
K7: The range of potential Operational Research techniques & methods, their strengths and weaknesses and how they are used in practice. This includes, optimisation, machine learning, scheduling, forecasting, simulation, decision analysis, inventory models, Markov models, dynamic programming, performance measurement (such as KPIs, metrics and benefits), heuristics and statistical methods.	**S6**: Exercise judgement by selecting the appropriate technique to design an approach to a client's problem. **S8**: Creates a model to analyse a problem; applies an appropriate approach including programming, scripting, coding or using spreadsheets.
K8: Operational Research software solutions (packaged and "in-house" developed) and their comparative strengths and weaknesses in analysing client operational research problems.	**S7**: Use relevant software solutions to support the analysis of a client's problem. **S8**: Creates a model to analyse a problem; applies an appropriate approach including programming, scripting, coding or using spreadsheets.

Assessment method 2: Professional discussion underpinned by a portfolio of evidence

Knowledge
K9: How to create spreadsheets and code in at least one programming language to develop models and carry out analysis.
K10: The role of the Operational Research team within their own organisation.
K11: The wider political, business and social context and how these external factors might affect their clients and analysis.
K12: The principles of Organisation theory. This includes how organisations work, change and behave. And how this impacts Operational Research practice, modelling and the uptake of findings.
K13: Ethical principles and processes that relate to Operational Research and how to ensure compliance
K14: How regulatory frameworks, commercial and contract management collectively impact the practice of Operational Research.
K15: How Data Protection legislation is implemented across own and client organisation
K16: The importance and value of using expertise from your own internal/external networks when considering an Operational Research question.
K20: How Operational Research has evolved and its impact on society
K21: Techniques for managing and appraising your own personal and professional development.
K22: Techniques for supporting colleagues in their professional development through provision of feedback.

Skills
S8: Creates a model to analyse a problem; applies an appropriate approach including programming, scripting, coding or using spreadsheets.
S9: Critically analyse the internal and external factors relevant to an Operational Research problem to determine a holistic approach. These factors include organisational structures, the political, business and social context.
S10: Apply holistic approaches to an Operational Research problem, taking into consideration internal and external factors.
S11: Recommend compliant solutions that address the client's problem.
S15: Exercise judgement to deliver persuasive arguments that are objective and unbiased.
S17: Critically evaluate & address own developmental needs.
S18: Apply judgement to provide relevant and timely feedback when supporting colleagues' development.
S22: Exercise judgement in managing and using data in accordance with relevant legislation, organisational principles and governance.

Behaviours
B3: Overcomes challenges and perseveres in order to deliver on time.
B5: Seeks out the latest Operational Research techniques in order to address client problems effectively.
B8: Acts ethically and challenges unethical evidence/practice.

Appendix Two – Grading Descriptors

End-point assessment method 1: Work-based project report and presentation
To achieve a distinction in this assessment method, the apprentice must pass all pass level criteria, plus achieve a minimum seven out of ten distinction level criteria.

KSB	Fail	Pass	Distinction
K18 S14 B1	Does not meet the pass criteria	Identifies and uses relevant project management principles and techniques. Manages the range of variables impacting a problem in order to conclude the project. These variables include people, risk, financial controls and budgets. Demonstrates how they have adapted their approach to the project throughout the project lifecycle.	Adapts and blends from a range of recognised approaches, balancing their strengths and weaknesses for that particular situation.
K19 K25 S16 B4		Creates evidence-based client reports that offer compliant recommendations to client problems, and balances proposed actions and benefits with cost. Demonstrates adapting to clients' requirements when adopting their communication style.	Seeks feedback on their style of communication during the project and reflects on how they can improve Demonstrates they have met the client's needs by varying or going beyond the original statement of work
K23 S12 S19 S20 S21 B2		Manages and leads by identifying and utilising the dynamics within the team and motivates team members in order to collaborate to achieve project outcomes. Operates autonomously, within limits of own authority and responsibility.	Transfers and synthesises learning between teams and reconciles conflicts in teams.

		Actively draws on both internal and external sources of expertise to inform their results.	Demonstrates how the learning they have generated could be used to inform future projects
K1 K2 K3 S1 S2		Identifies and structures the client problem by applying either a relevant formal or relevant informal methodology. Turns this into relevant and defined operational research questions.	Uses multiple approaches in parallel or combination and reconciles their inconsistencies to deliver practical results.
K4 K5 K6 S3 S4 S5 B6		Actively identifies the provenance, scope and limitations of all key data relevant to a client problem Sources required raw data. Manipulates, interrogates and manages this raw data, selecting a relevant methodology. Critically analyses available data and compares modelled data with external data. Weighs the relationships, robustness and quality of data to form appropriate data sets.	Critically appraises the data sources and their treatment and makes suggestions for improvements should the analysis be repeated.
K7 K8 S6 S7		Evaluates why their chosen analytical method is appropriate to the client's problem including its theoretical underpinning. Demonstrates the use of relevant software solutions and compares with bespoke modelling when designing the approach to a client's problem.	Demonstrates how they have drawn on research and expertise to improve the robustness of their analytical approach
K17 S13		Manages client relationships from project initiation to closure, by selecting from a range of approaches to identify clients' views, surface and challenge client assumptions, handle conflict and resistance, and balance a variety of interests	Reflects on how their approach to client management added benefits to addressing the client's needs efficiently and effectively and is able to articulate what else they might have done

K24 S23		Demonstrates validation and verification of analysis by application of relevant quality assurance methodology. Explains how they select and apply suitable assurance methods for their analysis and for the work of others.	Critically evaluates their assurance methods with respect to their adequacy, time demands and ability to provide appropriate assurance
B7		Evaluates how they considered the practical implications of their analysis and recommendations.	

Assessment method 2: Professional discussion underpinned by a portfolio of evidence

To achieve a distinction on this assessment method, the apprentice must pass all pass level criteria, plus achieve a minimum six out of eight distinction level criteria.

KSB	Fail	Pass	Distinction
K7 K8 K9 S8	Does not meet the pass criteria	Evaluates how they have selected appropriate approaches to effectively use a programming language to develop models and carry out analysis of a problem.	Evaluates the suitability of alternative methods to achieve improved outcomes.
K10 K11 K12 S9 S10		Analyses how operational research fits into the context of their organisation Evaluates how organisational theory and behaviour theory each relates to Operational Research practice, modelling and the uptake of findings. Critically analyses how they have considered the organisational structures, the political, business and social context impacting a client's problem. Explains how they utilised this in their holistic approach to the problem. Evaluates the context of their, or their client's, organisation using a standard organisational theory.	Critically analyses the effectiveness of the application of organisational theory
K13 K14 K15 S11 B8		Explains how they use both data protection legislation, together with the expectations of the client and their own organisation, when handing or creating data and is able to recommend a compliant solution. Evaluates when they have identified the relevant commercial, contractual, regulatory and ethical factors that impacted their work and how they ensured compliance. Justifies how they act ethically and how they challenge unethical evidence or practice to meet client needs.	

K16		Analyses how using expertise from both internal and external networks contributes to the quality of advice provided to clients.	Evaluates how internal and external networks can be used to advance shared learning.
K20		Explains the origins of operational research in the UK including its migration from military to civil use. Evaluates how the range of operational research applications have had impact on society	Critically evaluates how the history and development of operational research in the UK influences its current practice.
K21 K22 S17 S18 B5		Articulate when they sought out and identified their own operational research developmental need, and the technique they used to proactively plan and appraise their development. Analyses when they identified a colleague with a development need and how they ensured their feedback was relevant and supportive.	Explains how they have used a recognised learning loop methodology to reflect on practice and explains the impact of this reflection on their current practice.
S15		Explains when they adapted their communication style in order to convey a complex and objective message in ways that will help their audience to understand. Justifies how this was persuasive and the impact this had on their audience.	Critically evaluates a communication style that they discounted and their rationale for this.
S22		Evaluates the steps they take that ensures they use and share data compliantly throughout an operational research issue.	Critically evaluates their own experiences of data management and how these could be used to improve assurance processes in future.
B3		Analyses a time when they encountered obstacles that were blocking a project and explains the tactics they deployed to overcome these to deliver the project on time.	Evaluates how these experiences overcoming obstacles will inform their future practice.