



Digital Industries Apprenticeship: Assessment Plan

Cyber Intrusion Analyst

Published in November 2016

Digital Industries Apprenticeships: Assessment Plan

1. General Introduction and Overview

The apprenticeship Standard for Cyber Intrusion Analyst was designed by the industry for apprentices employed in a wide variety of different organisations in the public, private and voluntary sectors. Employers likely to use the new Standard include:

- Large businesses that operate secure operations centres (SOC) or network operations centres (NOC) or cyber incident response services for internal or external clients, each of which may take on hundreds of apprentices a year, where the Apprenticeship pathway is a mainstay of recruitment;
- Small and medium-sized specialist cyber security service businesses that operate secure operations centres (SOC) or network operations centres (NOC) or cyber incident response services or related specialist services for internal or external clients, which may employ apprentices as core staff to provide the skills for growth;
- The armed forces, which takes on hundreds of apprentices a year including specialist cyber security trades across all three services.

The actual job role of the apprentice will vary significantly from one employer to the next, and may include for example:

- Cyber Intrusion Analyst – Secure Operations Centre (SOC) Analyst, Intrusion Analyst, Network Intrusion Analyst, Incident Response Centre (IRC) Analyst, Network Operations Centre (NOC) Security Analyst.

Our approach to assessment, therefore, has been designed to be appropriate, relevant and feasible in a wide range of contexts while also ensuring consistency across these contexts.

Employers have adopted the following broad principles to inform the approach:

- Assessment will motivate apprentices to do their very best, not just do enough to satisfy a minimum standard – for example by using a ‘high stakes’ method in the synoptic project, which gives apprentices a clear performance goal to aim at.
- The assessment process will add value to both the apprentice and the employer, by complementing and building on normal performance management and development tools.
- It should enable and encourage progression and continuous professional development, by being linked to professional qualifications and recognition.
- It should position the apprenticeship, not just as a job, but as the starting point for a career – assessment at the end marks a clear recognition of achievements, on which the individual can build.
- The assessment methods chosen ensure relevance and consistency, irrespective of the specific job role of the apprentice.
- Costs and practicalities will be appropriate and proportionate to employers with small numbers of apprentices.

Crown copyright 2016 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence

- Assessment will be driven by the Standards and will cover full competence in the occupation.

The approach is based on employers' requirements that apprentices a) are able to perform their role to a demonstrably high standard on completion; and b) make good progress towards this goal throughout the apprenticeship.

1.1 Overview of Assessment

On Programme Assessment

Technical knowledge and understanding is assessed on programme through Ofqual-regulated Knowledge Module. These must be passed before the end point assessment can take place.

End Point Assessment

The final, end point assessment is completed in the last few months of the apprenticeship. It is based on

a portfolio – produced towards the end of the apprenticeship, containing evidence from real work projects which have been completed during the apprenticeship, usually towards the end, and which, taken together, cover the totality of the standard, and which is assessed as part of the end point assessment

a project - giving the apprentice the opportunity to undertake a business-related project over a one-week period away from the day to day workplace

an employer reference

a structured interview with an assessor - exploring what has been produced in the portfolio and the project as well as looking at how it has been produced

An independent assessor will assess each element of the end point assessment and will then decide whether to award successful apprentices with a pass, a merit or a distinction.

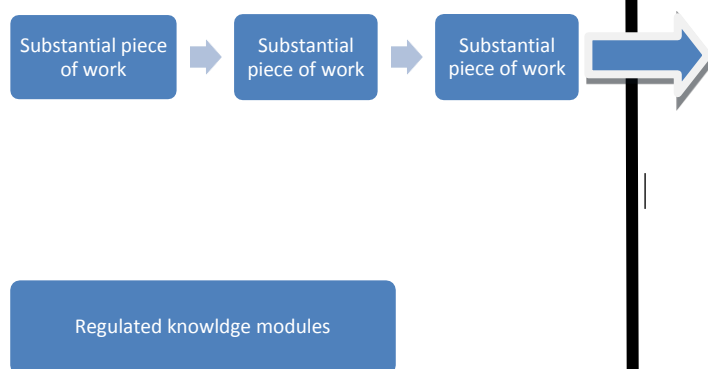
The approach is illustrated in the following diagram and then described in detail in the rest of the paper.

1

¹ Note: employers who choose not to use a Training Provider would also be responsible for those activities described as being the responsibility of the Training Provider throughout this document

On programme Assessment

Apprentice: carries out work as defined by their employer, selects evidence from their portfolio from work carried out toward the end of their apprenticeship, and passes the tests for underpinning knowledge and understanding.



Employer: creates opportunities for the apprentice to carry out work and produce outcomes; confirms that apprentice is ready for end point assessment

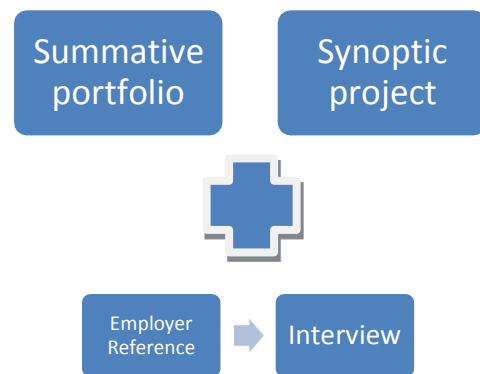
Training Provider: maps and assesses work against the Standard, helps apprentice select evidence for their summative portfolio, confirms readiness for end point assessment

Ofqual regulated assessment organisations: set and assess the regulated knowledge modules

End Point Assessment

Apprentice: submits portfolio, completes synoptic project and attends interview

Employer: completes a reference



Independent Assessor: assesses the apprentice on the basis of synoptic project, summative portfolio, employer reference and the interview

Independent Assessor: grades the apprentice, following the interview

Internal Verification and Moderation: ensures the consistency of assessment and grading within the Assessment Organisation.

Independent Moderation: ensures the consistency of assessment and grading across different Assessment Organisations

Threshold: Apprentice deemed to be ready for end point assessment

2. Planning Assessments

Training Providers are encouraged to develop and agree a plan with the employer for the how and when on-programme and end-point assessments will be delivered, based on the following principles.

All apprentices need a robust process of on-programme assessment to ensure that good progress is made towards the final end-point assessment. This should include ensuring that apprentices make good progress in moving towards full competence and maximising their potential, based on regular monitoring by employers and training providers.

Employers and training providers will need to carry out joint reviews of progress at regular intervals, involving apprentices, line managers and others directly involved, e.g. mentors, workplace coaches etc. They will agree how any issues are to be resolved and how additional “stretch” can be built in.

Apprentices will carry out tests of their underpinning technical knowledge and understanding whilst on programme, via the specified Ofqual-regulated knowledge modules, at appropriate points as agreed by the employer and the training provider.

Apprentices will be encouraged to develop and maintain examples of their work throughout their apprenticeship. Some of this work will then be selected for a summative portfolio, to be used for end point assessment.

3. On-Programme Assessment of Knowledge and Technical Understanding

Apprentices will have their Knowledge and Technical Understanding formally assessed at relevant times during their apprenticeship. These assessments will be via regulated knowledge modules.

The content of the Knowledge Modules is summarised below and further details are in the Occupational Brief available from the Tech Partnership at www.thetechpartnership.com/apprenticeship/cyberintrusionanalyst.

Knowledge Modules
Knowledge Module 1: Networks (for level 4 Cyber Intrusion Analyst Apprenticeship)
Knowledge Module 2: Operating Systems (for level 4 Cyber Intrusion Analyst Apprenticeship)
Knowledge Module 3: Information and Cyber Security Foundations (for level 4 Cyber Intrusion Analyst Apprenticeship)
Knowledge Module 4: Business Processes (for level 4 Cyber Intrusion Analyst Apprenticeship)

Crown copyright 2016 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence

Knowledge Module 5: Law, Regulation and Ethics (for level 4 Cyber Intrusion Analyst Apprenticeship)

The Knowledge Modules can be taken at any time whilst the apprentice is on-programme to ensure relevance to the job role and to maximise the impact of learning. The training provider and employer will agree the schedule for these assessments.

The Knowledge Modules must be passed before end-point assessment.

Wherever possible each Knowledge Module will be capable of on-line assessment.

4. Threshold Assessment

The decision as to when an apprentice is ready to cross the threshold from learning into the end point assessment phase will be made by the employer and the training provider based on their monitoring of apprentices' progress. In order to move into the end point assessment phase apprentices will need to have passed all the knowledge modules and be able to produce a summative portfolio.

5. End Point Assessment

The end point assessment includes an assessment of all the requirements of the standard, including, competencies, knowledge and behaviours. It takes place in the final few months of the apprenticeship, using four assessment methods:

- Summative Portfolio
- Synoptic Project
- Employer reference
- Interview

The use of a variety of assessment methods in the final end-point assessment ensures that the assessment of each apprentice is based on their performance and reflects accurately the quality of their work and the application of skills, knowledge and behaviours specified in the standards. Taken together, these components of the final end-point assessment build a cumulative picture of performance against the standard, enabling the independent assessor to make a holistic judgement about how well the apprentice meets or exceeds the standard.

The diagram below summarises what is assessed in each of the four elements of the end point assessment.

Summative Portfolio

Provides evidence against the totality of the standard, based on the application of knowledge, competence and behaviours to real work projects in the work environment.
This is key to ensure the validity of the final assessment decision.

Employer Reference

Provides the employer's perspective on how the apprentice has performed in the workplace and how they have applied their knowledge, competencies and behaviours in work projects.

Synoptic Project

Provides evidence against a selected set of knowledge, competencies and behaviours against a pre-defined project undertaken in a controlled environment.
This is key to ensure consistency and comparability, increasing the accuracy of the assessment decision.

Interview

Provides an opportunity for further evidence to be gathered and/or evidence to be explored in more detail against any of the knowledge, competence or behaviours.
This also increases accuracy and validity.

Independent assessors will grade apprentices, using all the information gained in the end point assessment, against the criteria for pass, merit and distinction.

5.1 Summative portfolio

In the summative portfolio apprentices present evidence from real-work projects, illustrating the application of all the knowledge, skills and behaviours set out in the standard. This is produced towards the end of the apprenticeship with evidence from projects that have been completed, usually, towards the end of the apprenticeship. The portfolio is assessed as part of the end point assessment, and is not formally assessed whilst on programme. The portfolio is not evidence that the learning has taken place, but is evidence that the apprentice has applied that learning in a holistic and coherent way.

Crown copyright 2016 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence

The evidence contained in the portfolio will comprise a small number of complete and/or discrete pieces of work which, together, cover the totality of the Standard. It will showcase their very best work, enabling them to demonstrate how they have applied their knowledge and understanding in a real-work environment to achieve real-work objectives.

Employers and training providers will assist the apprentice to assemble their portfolio to ensure that the summative portfolio is complete, that it covers the totality of the Standard and has been done to a satisfactory standard. Wherever possible, this will be an e portfolio or other electronic platform.

The evidence should be based on real work projects or outputs. The evidence can be supplemented with the following

- performance reports
- reflective accounts by the apprentice
- expert witness testimony
- customer feedback

The completed portfolio will be assessed against the requirements summarised in the standard and set out in detail in the occupational brief. This is carried out by an independent assessor who makes their own judgement on the quality of the work. The independent assessor may also note particular aspects of the work that they wish to discuss with the apprentice during the interview, either to confirm their judgement and/or provide further information on which to base their grading decisions.

The evidence will be assessed against all components of the standards, i.e.:

- technical competencies;
- technical knowledge and understanding;
- underpinning skills, attitudes and behaviours.

The assessor will examine the evidence in the portfolio for:

- completeness – the evidence in the portfolio, taken together, must cover the totality of the standard
- quality – the evidence must at least satisfy the minimum requirements for each area of the standard, as defined in the Occupational Brief available from the Tech Partnership.

5.2 Synoptic project

The synoptic project presents evidence from a business-related project testing the application of a selection of the knowledge, skills and behaviours defined in the standard. Each project will specify which selection of knowledge, skills and behaviours it is designed to test. The project does not need to cover every competence, but must cover a broad breadth of the competence outcomes, including event detection, event analysis, event escalation and incident response and configuring SIEM tools to adapt to a threat.

The project is designed to assess apprentices in a consistent way, irrespective of their particular workplace and their particular role within their company, and must therefore be completed outside of day-to-day work

pressures. Assessors must meet any employer requirements to address security clearance or commercial confidentiality requirements.

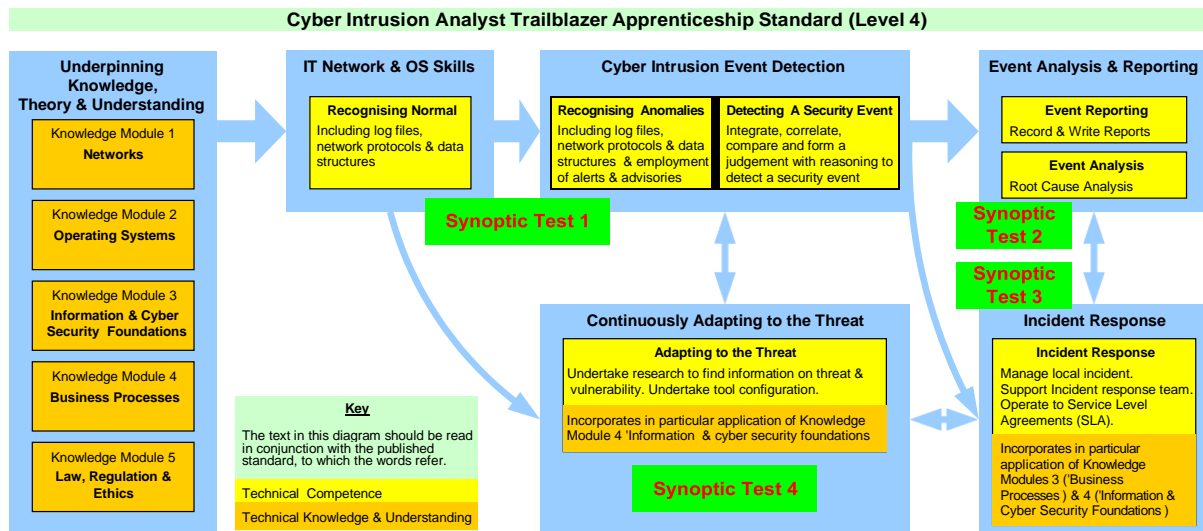


Figure 1: Diagram Showing Scope of Synoptic Test (shown in 4 parts) Related to Apprenticeship Standard

Cyber Intrusion Analyst

Demonstrate performance as a cyber intrusion analyst in a simulated or live SOC environment to test the main aspects of technical competence, knowledge and skill. The synoptic test could be undertaken in 4 parts for example:

Test part 1: Event detection for a minimum set of moderated and representative events

Test part 2: Event analysis and written reporting

Test part 3: Event escalation and incident response

Test part 4: Configuring SIEM tools to adapt to threat (writing a signature)

Assessment Organisations will develop a bank of business-related projects. Each of these projects will present a typical business task, appropriate for an SME, an IT business, a large corporate or a non-IT businesses. All of the projects will be comparable in terms of content and complexity, it is the context within which the skills and knowledge must be demonstrated that will vary. Training providers and employers will select the most appropriate project for each apprentice, based on their current job role.

Existing projects will be rotated and new ones introduced. The projects will also be designed in such a way as to ensure there is no benefit for an apprentice having prior knowledge of a project.

Crown copyright 2016 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence

Each project will take, typically, five working days to complete. Apprentices will complete their project off-the-job, so that they are away from the day to day pressures of work and in a 'controlled' environment, which may be on the employer's premises or the training provider's premises. The requirements for the 'controlled environment' will include a quiet room, away from the normal place of work, with a dedicated work-station, with access to all the required equipment and with someone responsible for the controlled environment to ensure it is their own work and to respond to any questions in a consistent way.

The synoptic project is assessed by an independent assessor who makes their own judgement on the quality of the work, based on the defined knowledge, skills and behaviours it is testing against the standard, the grading criteria and the minimum requirements for each area set out in the Occupational Brief.²

The independent assessor may also note particular aspects of the work that they wish to discuss with the apprentice during the interview, either to confirm their judgement and/or provide further information on which to base their grading decisions.

Assessment Organisations will test and trial the projects with small groups of apprentices, employers and training providers. This will ensure they are valid, reliable and comparable to the other projects, before implementing them. Assessment Organisations will monitor projects over time to ensure comparability and continuing relevance.

At least half of the projects will be available to complete on-line.

Projects will balance the need to 1) be specific to ensure consistency and comparability and 2) be sufficiently flexible to enable apprentices to apply the approaches they use in their role.

Each project will enable the following to be demonstrated

- the application of knowledge and skills to meet the project outcomes
- the approach to planning and completion of the task
- the application of the relevant behaviours

Projects will enable differentiation of performance in line with the grading criteria.

Projects will require apprentices to document their assumptions and to highlight the consequences of those assumptions – enabling them to show their understanding of commercial pressures, and the application of their thinking and problem solving skills.

5.3 Employer Reference

The employer will provide a reference setting out their views of the quality of the apprentices work.

The Assessment Organisation will provide guidance and a simple template seeking employers' comments against the grading minimum standards, criteria and dimensions, as set out in the Occupational Brief.

The employer will not be asked to grade or provide a rating, as they do not have the comparative experience or evidence.

5.4 Interview

²The Occupational Brief is available from the Tech Partnership

Crown copyright 2016 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence

The interview is a structured discussion between the apprentice and their independent assessor, focusing on the summative portfolio and the synoptic project, with reference to the employer reference as appropriate. It covers both what the apprentice has done in terms of the standard of their work, and also how they have done it. This enables the end-point assessment to include the full range of technical knowledge and competencies as well as the underpinning skills, attitudes and behaviours.

The purpose of the interview is to:

- clarify any questions the independent assessor has from their assessment of the portfolio and the project;
- explore any comments raised in the employers reference;
- confirm and validate judgements about the quality of work;
- explore aspects of the work, including how it was carried out, in more detail;
- provide further evidence for the independent assessor to make a holistic decision about the grade to be awarded.

Assessment Organisations will produce a structured brief for the independent assessor to support the discussion. This will ensure that consistent approaches are taken and that all key areas are appropriately explored.

The interview will cover

- what they submitted in the portfolio
- what they produced in the project
- the standard of their work, as evidenced in the portfolio and the project
- how they approached the work submitted in the portfolio and the project

The interview can draw on broader experience from the workplace, but the initial and the primary focus is on the work presented in the portfolio and the project.

The interview will be undertaken by an independent assessor – and it is the same assessor who has assessed the portfolio and the project (and who is approved to assess against that standard) and who will also make the grading decision.

The interview will take place following the completion and assessment of the project and the portfolio.

It is only after the interview has been completed that the grading decision can be taken

6. Grading

Grading takes place at the end of the apprenticeship, following the end point assessment.

The output is a single grade: pass, merit or distinction, for the entire apprenticeship.

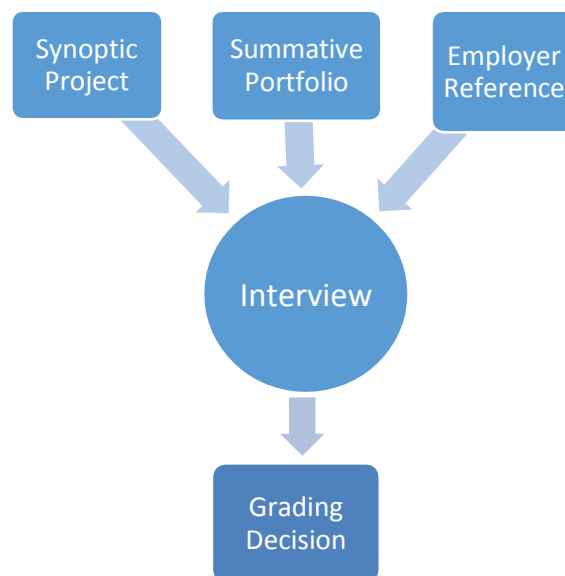
Grading is done by the independent assessor, based on a holistic view of the apprentice's work and as evidenced through each of the methods of end point assessment.

The assessor will assess each of the synoptic project and the summative portfolio in advance of the interview, will review the employer reference, and will note

- any initial assessment conclusions
- questions to explore at interview to test these initial conclusions

Whilst the assessor may have some sense of the likely or potential grade, this initial and partial assessment conclusion is not communicated as the grading decision cannot be made before all the evidence has been assessed, including the evidence gained at the interview.

The interview enables the outputs from the project and the portfolio to be explored in more detail – in terms of what was produced and how it was produced, and to address the questions previously identified and to validate, test and amend initial assessment conclusions.



The grading decision is made after the interview. The grading decision is made on the basis of a holistic assessment of the totality of the evidence presented - including the interview itself, bearing in mind that

- The bulk of this evidence is contained in the portfolio, and it is the portfolio that presents evidence against the totality of the standard
- The project provides a test of how well the apprentice can perform, in a controlled and comparable environment against a selection of the competences on the standard – a check and a balance on the portfolio
- The employer’s reference provides supporting evidence based on their perceptions of that apprentice within their workplace

Crown copyright 2016 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence

- The interview provides additional supporting evidence or clarification of the above

There is one grade – and none of the elements are graded separately.

Grading criteria

There are three sets of criteria on which the assessment and grading is made. The three criteria are

The What: what the apprentice has shown they can do,

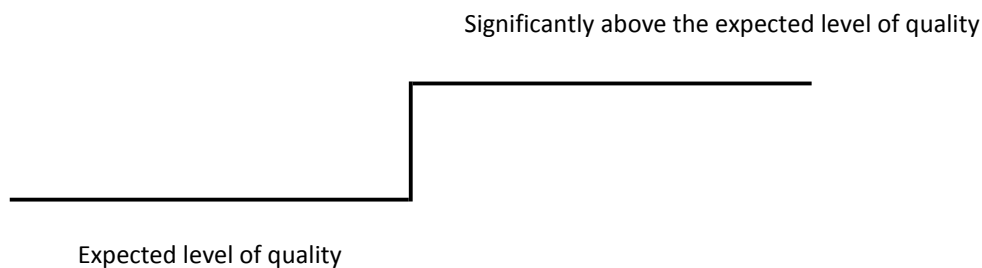
The How: the way in which the work has been done

The With Whom: The personal and interpersonal qualities the apprentice has brought to all their work relationships

Each of these three criteria has minimum (expected) requirements, which must be satisfied for a pass.

Each of these criteria has a number of dimensions which should be considered to determine if the apprentice is significantly above the minimum (expected) level of quality

That is, for each of the three criteria there are two levels: the expected level (as defined in the minimum requirements) and a level that is significantly above this



The minimum requirements for a pass and the dimensions to be considered for a merit or a distinction are defined in the Occupational Brief, available from the Tech Partnership.

The Grading Decision

The purpose of grading is to differentiate between those apprentices whose work is at the expected level of quality against the totality of the skills, knowledge and behaviours specified in the standard and those whose work is significantly above this expected level

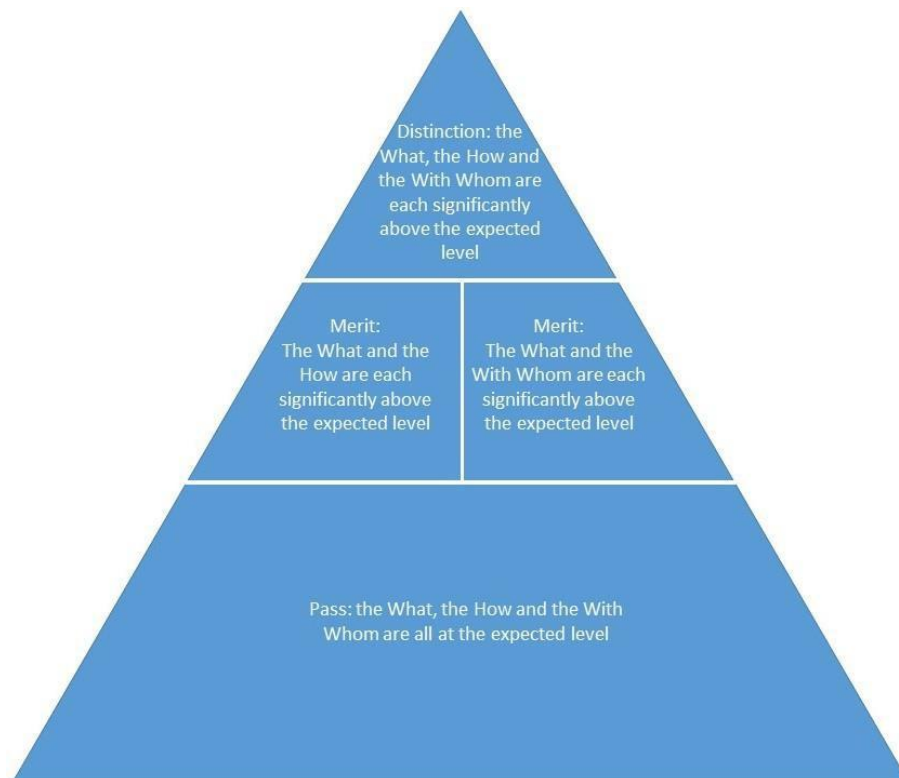
For a pass, each of the three sets of criteria must demonstrate at least the expected (minimum requirement) level of quality

For a merit, the What has to be significantly above the level of quality and one of either the How or the With Whom has to be significantly above the level of quality expected

Crown copyright 2016 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence

For a distinction, each of the three sets of criteria must be significantly above the expected level of quality

The assessor takes a holistic judgement of whether or not their assessments demonstrate that the apprentice is “significantly above the expected level of quality” in each of these three areas and can then determine which grade should be awarded



7. Professional body recognition

Cyber Security Apprenticeships are a new and currently unique entry point to the significant career opportunities that the cyber security sector can provide.

People completing this apprenticeship will be eligible to apply for a place on the independent Register of IT Technicians, providing recognition of their competence in applying technical skills in a business environment whilst signing up to a professional code of conduct and behaviours. A place on the Register acknowledges that those achieving these standards have joined the professional community, and opens the door to the continued support, career development and guidance that professional bodies provide.

In addition, an apprentice who successfully completes the apprenticeship will be eligible to apply for Associate Membership of the IISP, which is the leading UK professional body dedicated to Information Security Professionals.

Crown copyright 2016 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence

Professional body involvement and recognition in the development of the standards and the approach to assessment is a further, independent, check on quality assurance both for the apprenticeships delivered against the standards and an individual's assessment against them.

8. EXTERNAL QUALITY ASSURANCE OF END POINT ASSESSMENT FOR THE DIGITAL INDUSTRIES TRAILBLAZER APPRENTICESHIP STANDARDS

All assessment organisations listed on the Register of Apprenticeship Assessment Organisations (RoAAo) are required to comply with assessment processes as set out in this plan and must adhere to the external quality assurance process. The external quality assurance will be overseen by a new Digital Industries Apprenticeship External Quality Assurance Board and conducted and managed by the Tech Partnership on a non-profit basis.

Digital Industries Apprenticeship External Quality Assurance Board

Membership of the Board will be via an open, transparent and fair public nomination and selection process. Membership will be open to all types and sizes of businesses, including representatives from SMEs.

When a vacancy arises, employers of tech and digital staff will be invited to apply for a seat on the Board, demonstrating support from at least two industry and/or relevant stakeholder organisations. Nominees will be selected based on their experience, knowledge, and commitment to ensuring that the quality, consistency and impact of apprenticeships for the benefit of the sector is maintained and maximised. Selection will also consider the overall balance and make-up of the Board, to ensure that there is broad representation across sizes and sectors of organisations. The selection of Board members will be undertaken by the Digital Industries Apprenticeship External Quality Assurance Board. Until this Board is fully established (expected January 2017) selection will be by employers from the Employer Implementation Group. None of the employers involved in the selection of Board members, or the organisations they work for, will have been connected to any of the applicants. The Board will have 10 members.

The Board will have a balance of members from different sectors, including the public, private and voluntary sectors, tech and non tech companies and will include at least two representatives from SMEs. The Board will have a chair and there will be formal, and published, terms of reference for the Board. Each Board member will be subject to re-election after a period of two years and no Board member will be eligible to serve more than two terms. Board members will commit to working openly and on behalf of the industry as a whole and to declare formally any conflicts of interest. The Board may choose to invite others, such as training providers or assessment organisations, to attend some or all of the meeting where they want their input or expertise. The Board will have in-depth knowledge and understanding of the content of the relevant digital apprenticeship standards and assessment plans and of the external quality assurance arrangements and methodologies

The Board will:

- Set and agree the key measures to benchmark external quality assurance results to be used by the Tech Partnership
- Review the reports from the external quality assurance for each assessment organisation and for each standard, based on the reports produced by the Tech Partnership, and will agree corrective action as required
- Make recommendations, to the relevant employer group who set the standards, to training providers and to assessment organisations, to share best practice and/or to highlight issues that need to be addressed in the Standard or Assessment Plan, as required

Crown copyright 2016 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence

External Quality Assurance Process

External quality assurance will focus on four activities to ensure compliance including consistency of assessment materials; competence and performance of staff; the internal quality assurance systems and processes; and the external moderation of a sample of end point assessments.

These activities will be reviewed through two processes

Systems Audit

A systems audit will be undertaken within six months of such registration, and then on an annual basis. The systems audit will include:

- Ensuring consistency of assessment tools including the design of the assessment materials, the consistent application of these tools and the internal quality assurance of assessment materials
- Competence of staff including the occupational competence of assessment and internal verification staff and the appropriateness of the training and CPD of staff for the standards they are assessing against

Internal quality assurance systems, processes and reporting

The systems audit will be based on desk review of all relevant documentation, meetings with key staff and a site visit. A formal report will be produced following the systems audit, highlighting any areas where remedial action is needed. Assessment Organisations will be required to provide a remedial plan, with clear timescales, setting out how they will address any such issues.

External Moderation

Assessment Organisations will advise the Tech Partnership as soon as they are notified by an employer and/or training provider that an apprentice is ready to undertake end point assessment and the external moderation of assessment decisions will be undertaken with a sample of those assessments that have been completed since the previous external moderation visit. It is expected that external moderation will take place at least annually.

The sample size will vary and will be dependent on a number of factors, including the number of sites, the number of assessors and assessments undertaken, the number of different standards being assessed, the previous findings from external moderation samples and the conclusions from the systems audit. In the first year of assessment against a standard, all assessment organisations will have a higher percentage sample.

A formal report will be produced following each sample of external moderations. These reports will be supplied to the assessment organisation, setting out any areas where the service has not fully met the defined requirements and/or where inconsistencies have been identified. This will require the assessment organisation to produce and agree a remedial plan, with clear timescales, to ensure the service fully meets all the requirements.

8.1 Ensuring independence

Independence and impartiality are achieved as the end point assessment is undertaken by an independent assessor from an Assessment Organisation. The independent assessor will make a holistic assessment of each apprentice's work, including the grade to be awarded, on the basis of evidence supplied in the portfolio, the project, the employer reference and through the interview.

8.2 Delivering consistent, reliable judgements

Crown copyright 2016 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence

The assessment methods described above are designed to produce assessment outcomes that are consistent and reliable, allowing fair and proper comparison between apprentices employed in different types and sizes of organisation.

The apprenticeship standard defines what is required in terms of skills, knowledge and behaviours. Our approach puts the standard at the heart of the assessment process, ensuring that judgments on occupational competence are consistent and that there is standardisation and comparability between employers.

This specification for the tools, materials and techniques to be used in assessment, are the starting point to ensure that consistent approaches to assessment are taken by assessment organisations. The detailed criteria as set out in the Occupational Brief help to ensure consistent application of these assessment methods.

Any organisation interested in delivering the assessment service must be on the SFA register and will, therefore, be able to demonstrate a range of capabilities including

- in depth and up to date sector knowledge and understanding
- credibility within the sector
- the capability and relevant, up to date sector experience of the people who will carry out assessments
- the ability to develop tools and materials to deliver these assessments
- a track record in delivering assessments
- robust internal verification processes
- employer responsiveness and effective customer service processes
- induction, and training and development plans for everyone involved in assessment
- effective leadership and management arrangements
- quality assurance and quality control procedures
- impartial moderation of assessments

(In addition, assessment organisations who wish to develop and assess the Knowledge Modules must be/become registered with Ofqual with the ability to develop and deliver Ofqual regulated qualifications in accordance with the specification for the Knowledge Modules.)

It will be the responsibility of the Assessment Organisations to ensure that those undertaking end point assessments have the necessary skills and industry knowledge to make reliable judgements. They will be required to recruit and train people, whether as employees or sub-contractors, with the right mix of skills and experience to undertake the independent end-point assessment against this standard.

Registered assessors must be competent in the occupation they are assessing, in terms of

- Up to date, relevant, in-depth and broad experience of working in this occupation
- Relevant industry expertise equivalent to or higher than the level of the apprenticeship standard being assessed and/or relevant professional recognition at a level equivalent to or higher than the registration level of the apprenticeship standard being assessed
- The possession of practical and up to date knowledge of the application of current working practices, infrastructure, tools and technologies appropriate to this occupation and of relevance to the sector/size of business in which they will be carrying out assessments

In addition, independent assessors must have completed an induction to demonstrate working knowledge of the apprenticeship standard and the assessment process. They must be fully trained and approved for use of each of the assessment tools and be trained in the consistent application of the grading criteria. They must attend standardisation meetings to ensure and maintain consistency of assessment decisions.

Anyone who undertakes end point assessment must be held on a register by the assessment organisation. The register must confirm that each individual undertaking end point assessment has satisfied these criteria and that evidence has been checked, through

- Personal interviews
- Qualifications
- CPD certificates
- Employment history
- Testimonials
- Assessment organisation induction and training events

Assessment organisations will be responsible for developing the assessment tools and materials and supporting materials, including documented criteria for the use of each assessment tool. These tools should be trialled and tested before implementation. Assessors should be provided with supporting information to help ensure that all assessments are made consistently and against the specification.

The Assessment Organisations should have robust internal quality assurance and verification processes to ensure that the quality, consistency and validity of assessments is maintained. Assessment Organisations should have regular standardisation meetings between themselves.

All organisations delivering assessment will be expected to collaborate with each other to ensure consistency of assessment outcomes across different assessment organisations and to collaborate in relation to moderation arrangements.

8.3 Delivering accurate, valid judgements

Crown copyright 2016 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence

The assessment process is designed to test the totality of the standard. As described elsewhere in this Plan, the combination of four assessment methods in the end point assessment ensures that the assessment of each apprentice is based on their performance and reflects accurately the quality of their work and the application of skills, knowledge and behaviours specified in the standard. Taken together, the four components of the end point assessment build a cumulative picture of performance against the standard.

- The portfolio is a key factor in ensuring the validity of the final assessment decision.
- The project provides a relatively high degree of consistency and comparability, increasing the accuracy of the assessment decision.
- The employer reference provides additional evidence of how the apprentice has demonstrated the application of skills and knowledge in the workplace.
- The interview with an independent assessor increases accuracy and validity by providing the assessor with an opportunity to assess depth and breadth in the application of underlying knowledge, skills and behaviours.

The role of the independent assessor and the capability of the Assessment Organisation is critical – as these ensure that assessments are undertaken by suitably qualified and trained assessors, using approved tools and materials, with documented criteria, as well as robust internal verification and quality control processes.

9. Feasibility and Manageability

These apprenticeships will be taken up by employers, from all sectors, across the country. This approach to assessment, with its emphasis on on-line and virtual assessment, means that there is no requirement for physical centres or for assessors to be located geographically.

There are a wide range of providers of vendor certificates and a number of specialist assessment organisations with the sector expertise to develop and deliver the required assessments.

It is estimated that there will be approx. 60 starts on this apprenticeship once it is fully available.

10. Affordability and sustainability

The costs and practicality of assessment have been key considerations in the development of this approach, not least because of the number of smaller businesses who employ apprentices in these roles. Cost effectiveness has been increased in a number of ways, including

- the removal of the current duplication in the on programme assessment of knowledge, by enabling the assessment of knowledge through vendor and professional qualifications
- the pragmatic combination of assessment methods ensures breadth, validity and reliability to satisfy the assessment requirements whilst minimising additional, non-value adding assessment costs
- the removal of the current requirements for the collection of unnecessary evidence throughout the duration of the apprenticeship, by focusing on end point assessment
- the simplification of roles and responsibilities in the assessment process

Crown copyright 2016 You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. Visit www.nationalarchives.gov.uk/doc/open-government-licence

- the involvement of the employer in defining the work projects reduces the need for multiple visits by assessors
- the development of on-line approaches, including on-line materials, resources and assessment processes, to enable scalability and cost-effectiveness

Consultation with awarding organisations and training providers has confirmed that the costs of this approach will be no more than the current arrangements, and could be significantly less. Their view is that less time will have to be spent on assessment, but that the time spent on assessment will be more value adding to the apprentice and the employer. They also recognise that they may need to have more experienced staff involved in the process.

Our aim is that assessment costs will be 10-20% of the total cost of the apprenticeship. The direct costs of assessment are estimated as follows

- assessment of portfolio of evidence - 3.5 hours
- interview - 2 hours
- assessment of final project - based on the model of a practical complex project completed over five days, with one assessor covering a group of up to five apprentices, giving a cost of 1 day of assessment per apprentice

This gives a direct cost of assessment of between 2.5 and three days of assessor costs per apprentice.