



➤ **Higher National
Next Generation**

NextGen: HN grading pack

HNC Engineering

Qualification code: GT64 47

Valid from: August 2026

This grading pack provides information about the process of grading the Higher National Certificate (HNC). It is for lecturers and assessors, and contains all the mandatory information you need to grade the HNC.

You must read it alongside the educator guide.

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Contents

Approach to grading	1
Whole-qualification grade outcomes	1
Whole-qualification grade descriptors	1
What the whole-qualification grade descriptors do and how they are used	2
Using the grading matrix	4
Meta-skills	5
Learning for Sustainability	5
Grading matrix.....	6
Additional grading guidance	22
Engineering Council areas of learning and associated key competences	22
Administrative information	40
History of changes.....	40

Approach to grading

Grading in NextGen: HN Qualifications produces a valid and reliable record of a learner's level of achievement across the breadth of the qualification content.

As well as grading the whole qualification, you assess individual units on a pass or fail basis. Each unit has evidence requirements that learners must achieve before you can consider them for whole-qualification grading.

Whole-qualification grade outcomes

Learners who pass NextGen: HN Qualifications receive one of the following grade outcomes for the qualification as a whole:

- Achieved with Distinction
- Achieved with Merit
- Achieved

To determine a learner's whole-qualification grade, you use the grading matrix to assess and judge their performance across the key aspects of the HNC. You must align your judgements with the following whole-qualification grade descriptors.

Whole-qualification grade descriptors

Achieved with Distinction

The learner has achieved an excellent standard across the course content, going significantly beyond meeting the qualification requirements. They showed a comprehensive knowledge and understanding of course concepts and principles, and consistently used them to apply skills to complete high-quality work. They engaged significantly with the process of developing their meta-skills in the context of their HN Qualification.

Achieved with Merit

The learner has achieved a very good standard across the course content, going beyond meeting the qualification requirements. They showed a very good knowledge and understanding of course concepts and principles, and consistently used them to apply skills to complete work of a standard above that expected for an Achieved grade. They actively engaged with the process of developing their meta-skills in the context of their HN Qualification.

Achieved

The learner has achieved a good standard across the course content, credibly meeting the qualification requirements. They showed a good knowledge and understanding of course concepts and principles, and used them to apply skills to complete work of the required standard. They engaged with the process of developing their meta-skills in the context of their HN Qualification.

What the whole-qualification grade descriptors do and how they are used

The whole-qualification grade descriptors outline the skills, knowledge and understanding a learner needs to show across the whole qualification to achieve that specific grade. They align with the Scottish Credit and Qualifications Framework (SCQF) level descriptors.

NextGen: HNC qualifications are at SCQF level 7. Learners who complete a NextGen: HNC can:

- convey knowledge of the subject's main theories, concepts and principles
- apply skills, knowledge and understanding of the subject in relevant practical and professional contexts
- use a broad range of approaches to address problems and issues in the context of the subject area
- exercise initiative and independence in carrying out activities, and have started to develop their professional practice and behaviours relevant to the context of the qualification
- differentiate between and appropriately apply the knowledge gained through practice, research and other sources

Please use this information, as well as the whole-qualification grade descriptors, to help you understand the standard at which learners should be assessed and graded.

Higher education institutes (HEIs) can use the grade descriptors to set admissions requirements, and employers can use them to help make decisions during a recruitment process.

Qualifications Scotland's quality assurance teams use the grade descriptors and the grading matrix to ensure that grades awarded in a particular NextGen: HN Qualification are at a consistent national standard, regardless of the setting in which they are achieved.

Successful learners receive their grade, along with the grade descriptor, on their certificate.

Using the grading matrix

You must use the grading matrix to judge the learner's whole-qualification grade. You can use the grading matrix at any time, but you only make a whole-qualification grading judgement when you are confident the learner has met all the evidence requirements of all the required units.

The criteria in the grading matrix reflect the knowledge, skills and qualities HEIs and employers can expect of a learner who has completed the qualification. These criteria align with the overall purpose of the qualification, and remain the same for its duration.

Each criterion has sector-specific descriptors of a typical learner's performance standard, aligned to the whole-qualification grade outcomes of Achieved, Achieved with Merit and Achieved with Distinction. These descriptors describe the standard a learner of that whole-qualification grade is expected to show.

The guidance accompanying each criterion can include, but is not limited to, information on:

- relevant types of assessment that may produce useful or meaningful evidence for judging that criterion
- mapping to content that is particularly relevant to that criterion
- mapping to meta-skills

This guidance may be updated over time.

When you make your final grading judgement, you must use a 'best fit' approach based on the learner's achievement across the grading matrix. This may be straightforward — for example, if the learner's evidence shows a consistent standard across the grading matrix criteria. If it is not straightforward, you must make a 'best fit' judgement — for example, if a learner shows a mix of standards across the grading matrix criteria, with no clear pattern. The criteria may not always have equal value. You can decide some are more important to the final grade than others.

Meta-skills

Meta-skills are a key part of NextGen: HN Qualifications and learners can develop them throughout the qualification. A learner's engagement with developing their own meta-skills contributes to their qualification grade. You do not assess or grade competence or progress in individual meta-skills — for example, by judging the quality of a learner's feeling or creativity. Instead, you look at the process of development learners go through. This means learners need to provide evidence of planning, developing and reflecting on their meta-skills.

If qualification content also contributes to meta-skills development, it contributes to a learner's whole-qualification grading through the grading matrix approach.

Learning for Sustainability

Learning for Sustainability does not contribute to a learner's qualification grade.

The exception is where Learning for Sustainability content is part of the qualification content. In this case, the Learning for Sustainability content contributes to a learner's whole-qualification grade, through the grading matrix.

Grading matrix

Learners can take different pathways to achieve HNC Engineering, such as Engineering Systems, Mechanical and Electrical.

Centres must align learner evidence for units to the grading criteria in a way that:

- is transparent and consistent for all pathways
- is suitable for internal and external verification
- gives consistently reliable results

The Engineering Council defines key competences and commitments for all levels of professional engineer, and these are relevant to all engineering disciplines. At HNC level, there are 18 key competences grouped across 11 areas of learning. They reflect skills gained in HNC units.

The HNC Engineering grading matrix shows where these key competences fit into the holistic grading model for Achieved, Merit and Distinction, aligning unit achievement to grading through the Engineering Council's defined areas of learning.

The grading is holistic across the 12 credits selected from the mandatory and mandatory optional units.

Criterion 1: Understanding of the holistic project's objectives

Criterion 1	Achieved	Merit	Distinction
<p>Understanding of the holistic project's objectives</p> <p>Engineering Council competence — the learner demonstrates that they:</p> <ul style="list-style-type: none"> identify problems and apply appropriate methods to identify causes and achieve satisfactory solutions 	<p>The learner's project activities are in line with the criteria set out in the project briefs and meet the criteria standard.</p> <p>The learner:</p> <ul style="list-style-type: none"> analyses well-defined problems, reaching satisfactory conclusions selects and uses a limited range of technical literature and other sources of information to address well-defined problems identifies, evaluates and mitigates a minimum range of risks (the effects of uncertainty) associated with a well-defined project or activity 	<p>The learner's project activities are in line with the criteria set out in the project briefs and meet the criteria as being of a high standard.</p> <p>The learner:</p> <ul style="list-style-type: none"> analyses well-defined problems, reaching substantiated conclusions selects and uses an extended range of technical literature and other sources of information to address well-defined problems identifies, evaluates and mitigates an extended range of risks (the effects of uncertainty) associated with a well-defined project or activity 	<p>The learner's project activities are in line with the criteria set out in the project briefs and meet the criteria as being exemplary.</p> <p>The learner:</p> <ul style="list-style-type: none"> analyses well-defined problems, reaching significant substantiated conclusions selects and uses a wide range of technical literature and other sources of information to address well-defined problems identifies, evaluates and mitigates a wide range of risks (the effects of uncertainty) associated with a well-defined project or activity

Criterion 1	Achieved	Merit	Distinction
<p>Understanding of the holistic project's objectives (continued)</p> <p>Engineering Council competence — the learner demonstrates that they:</p> <ul style="list-style-type: none"> identify problems and apply appropriate methods to identify causes and achieve satisfactory solutions 	<p>The learner:</p> <ul style="list-style-type: none"> adopts a holistic and proportionate satisfactory approach to the mitigation of security risks 	<p>The learner:</p> <ul style="list-style-type: none"> adopts a holistic and proportionate extended approach to the mitigation of security risks 	<p>The learner:</p> <ul style="list-style-type: none"> adopts a holistic and proportionate wide-ranging approach to the mitigation of security risks

Criterion 1 guidance

This criterion can be evidenced by the mandatory Professional Practice in Engineering unit, as well as the mandatory optional units.

The largest well-defined problem is the tasks done in the Professional Practice in Engineering unit, but these will likely be enhanced by tasks in the mandatory optional units.

The range and depth of analysis leading to substantiated conclusions to well-defined problems defines the grade boundaries.

Criterion 2: Independent working

Criterion 2	Achieved	Merit	Distinction
<p>Independent working</p> <p>Engineering Council competence — the learner demonstrates that they:</p> <ul style="list-style-type: none"> • work reliably and effectively without close supervision, to the appropriate codes of practice • accept responsibility for the work of themselves or others • accept, allocate and supervise technical and other tasks 	<p>The learner can demonstrate the ability to work independently on some tasks.</p> <p>The learner:</p> <ul style="list-style-type: none"> • functions well as an individual and as a member of a team 	<p>The learner can demonstrate the ability to work independently to a high standard on some tasks.</p> <p>The learner:</p> <ul style="list-style-type: none"> • functions effectively as an individual and as a member of a team 	<p>The learner can demonstrate the ability to work independently to an exceptional standard on all tasks.</p> <p>The learner:</p> <ul style="list-style-type: none"> • functions effectively, showing leadership, as an individual and as a member of a team

Criterion 2 guidance

This criterion can be mainly evidenced by the mandatory Professional Practice in Engineering unit, and supported by evidence from the mandatory optional units.

Learners will have varying degrees of exposure to independent working throughout the units. The range and application of independent working skills define the grade boundaries.

Criterion 3: Having evidence of maintaining and applying knowledge

Criterion 3	Achieved	Merit	Distinction
<p>Having evidence of maintaining and applying knowledge</p> <p>Engineering Council competence — the learner demonstrates that they:</p> <ul style="list-style-type: none"> • review and select appropriate techniques, procedures and methods to carry out tasks • use appropriate scientific, technical or engineering principles 	<p>The learner can generally apply and use their knowledge of engineering on contextualised project activity.</p> <p>The learner can typically demonstrate their problem-solving abilities using mathematics and engineering skills in project activity.</p> <p>The learner:</p> <ul style="list-style-type: none"> • applies a minimum range of knowledge of mathematics, statistics, natural science and engineering principles to well-defined problems 	<p>The learner can generally apply and use their excellent knowledge of engineering on contextualised project activity.</p> <p>The learner can typically demonstrate their effective problem-solving abilities using mathematics and engineering skills in project activity.</p> <p>The learner:</p> <ul style="list-style-type: none"> • applies an extended range of knowledge of mathematics, statistics, natural science and engineering principles to well-defined problems 	<p>The learner can consistently apply and use their outstanding knowledge of engineering on contextualised project activity.</p> <p>The learner can consistently demonstrate their creative problem-solving abilities using mathematics and engineering skills in project activity.</p> <p>The learner:</p> <ul style="list-style-type: none"> • applies a wide range of knowledge of mathematics, statistics, natural science and engineering principles to well-defined problems

Criterion 3	Achieved	Merit	Distinction
<p>Having evidence of maintaining and applying knowledge (continued)</p> <p>Engineering Council competence — the learner demonstrates that they:</p> <ul style="list-style-type: none"> • review and select appropriate techniques, procedures and methods to carry out tasks • use appropriate scientific, technical or engineering principles 	<p>The learner:</p> <ul style="list-style-type: none"> • uses appropriate computational and analytical techniques to solve well-defined problems, recognising the limitations of the techniques employed • uses a range of practical laboratory and workshop skills to investigate well-defined problems • selects and applies appropriate materials, equipment, engineering technologies and processes to a minimum standard, as given in the relevant unit specifications, to plan and carry out well-defined programmes of work 	<p>The learner:</p> <ul style="list-style-type: none"> • uses an extended range of appropriate computational and analytical techniques to solve well-defined problems, recognising the limitations of the techniques employed • uses an extended range of practical laboratory and workshop skills to investigate well-defined problems • selects and applies an extended range of materials, equipment, engineering technologies and processes to an enhanced standard, to plan and carry out well-defined programmes of work 	<p>The learner:</p> <ul style="list-style-type: none"> • uses a wide range of appropriate computational and analytical techniques to solve well-defined problems, recognising the limitations of the techniques employed • uses a wide range of practical laboratory and workshop skills to investigate well-defined problems • selects and applies a wide range of materials, equipment, engineering technologies and processes to an exemplary standard, to plan and carry out well-defined programmes of work

Criterion 3 guidance

This criterion can be evidenced by the mandatory Engineering Mathematics 1 and Engineering Principles units, as well as the mandatory optional units. The range and depth of knowledge of mathematics, statistics, natural science and engineering principles applied to well-defined problems defines the grade boundaries.

Criterion 4: Quality of submissions (reports)

Criterion 4	Achieved	Merit	Distinction
<p>Quality of submissions (reports)</p> <p>Engineering Council competence — the learner demonstrates that they:</p> <ul style="list-style-type: none"> • complete and report on challenging tasks successfully within their area of work • identify issues that fall outside of their current knowledge and seek advice • identify standards and codes of practice relevant to a new task • fully understand drawings, permits to work, instructions or other similar documents after appropriate checking and identifying issues 	<p>The learner maintains their portfolio to an acceptable standard, ensuring that all evidence that meets the grading criteria is recorded.</p> <p>The learner’s project activities are in line with the criteria set out in the project briefs and meet the criteria standard.</p> <p>The learner can:</p> <ul style="list-style-type: none"> • demonstrate good communication skills 	<p>The learner maintains their portfolio to a high standard, ensuring that all evidence that meets the grading criteria is recorded.</p> <p>The learner’s project activities are in line with the criteria set out in the project briefs and meet the criteria as being of a high standard.</p> <p>The learner can:</p> <ul style="list-style-type: none"> • demonstrate a range of good communication skills 	<p>The learner maintains their portfolio to an exceptional standard, ensuring that all evidence that meets the grading criteria is recorded.</p> <p>The learner’s project activities are in line with the criteria set out in the project briefs and meet the criteria for being exemplary.</p> <p>The learner can:</p> <ul style="list-style-type: none"> • demonstrate a range of excellent communication skills

Criterion 4	Achieved	Merit	Distinction
<p>Quality of submissions (reports) (continued)</p> <p>Engineering Council competence — the learner demonstrates that they:</p> <ul style="list-style-type: none"> • complete and report on challenging tasks successfully within their area of work • identify issues that fall outside of their current knowledge and seek advice • identify standards and codes of practice relevant to a new task • fully understand drawings, permits to work, instructions or other similar documents after appropriate checking and identifying issues 	<p>The learner can:</p> <ul style="list-style-type: none"> • design minimum viable solutions for well-defined technical problems and assist with the design of systems, components or processes to meet business, customer or user needs as appropriate. This involves consideration of applicable health and safety; diversity, inclusion, cultural, societal and environmental matters; codes of practice; and industry standards 	<p>The learner can:</p> <ul style="list-style-type: none"> • design extended viable solutions for well-defined technical problems and assist with the design of systems, components or processes to meet business, customer or user needs as appropriate. This involves consideration of applicable health and safety; diversity, inclusion, cultural, societal and environmental matters; codes of practice; and industry standards 	<p>The learner can:</p> <ul style="list-style-type: none"> • design fully fleshed out, viable solutions for well-defined technical problems and assist with the design of systems, components or processes to meet business, customer or user needs as appropriate. This involves consideration of applicable health and safety; diversity, inclusion, cultural, societal and environmental matters; codes of practice; and industry standards

Criterion 4 guidance

This criterion can be evidenced throughout all units available for grading. The quality of all submissions for the mandatory and mandatory optional units are taken into consideration when deciding grade boundaries.

Criterion 5: Develops meta-skills and reflective practice

Criterion 5	Achieved	Merit	Distinction
<p>Develops meta-skills and reflective practice Engineering Council competence — the learner demonstrates that they:</p> <ul style="list-style-type: none"> • understand and comply with relevant codes of conduct • understand the safety implications of their role and apply safe systems of work • understand the principles of sustainable development and apply them in their work • carry out and record the continuing professional development necessary to maintain and enhance competence in their own area of practice • understand the ethical issues that may arise in their role and carry out their responsibilities in an ethical manner 	<p>The learner demonstrates examples of reflective practice.</p> <p>The learner adequately engages with the process of meta-skills development in the context of the qualification by:</p> <ul style="list-style-type: none"> • carrying out self-assessment of meta-skills, giving reasons for ratings or judgements made • setting clear and measurable goals plus action strategies to develop meta-skills in all three categories 	<p>The learner demonstrates a broad range of reflective practice.</p> <p>The learner demonstrates a clear commitment to the process of meta-skills development in the context of the qualification by:</p> <ul style="list-style-type: none"> • carrying out self-assessment of meta-skills, giving some insightful reasons for ratings or judgements made • setting clear and measurable goals plus action strategies to develop meta-skills in all three categories 	<p>The learner demonstrates extensive examples of reflective practice.</p> <p>The learner demonstrates a strong commitment to the process of meta-skills development in the context of the qualification by:</p> <ul style="list-style-type: none"> • carrying out self-assessment of meta-skills, giving some insightful reasons for ratings or judgements made • setting clear and measurable goals plus action strategies to develop meta-skills in all three categories, and updating these as required

Criterion 5	Achieved	Merit	Distinction
<p>Develops meta-skills and reflective practice (continued)</p> <p>Engineering Council competence — the learner demonstrates that they:</p> <ul style="list-style-type: none"> • understand and comply with relevant codes of conduct • understand the safety implications of their role and apply safe systems of work • understand the principles of sustainable development and apply them in their work • carry out and record the continuing professional development necessary to maintain and enhance competence in their own area of practice • understand the ethical issues that may arise in their role and carry out their responsibilities in an ethical manner 	<p>The learner can:</p> <ul style="list-style-type: none"> • using reflective practice strategies to track progress and analyse the links between course activities, experiences and meta-skills development • evaluate a minimum range of environmental and societal impacts of solutions to well-defined problems • apply a minimum range of ethical principles and recognise the need for engineers to exercise their responsibilities in an ethical manner, in line with professional codes of conduct 	<p>The learner can:</p> <ul style="list-style-type: none"> • using reflective practice strategies to track progress, analyse and demonstrate some insight into the impact of their course activities and experiences on their meta-skills development • evaluate an extended range of environmental and societal impacts of solutions to well-defined problems • apply an extended range of ethical principles and recognise the need for engineers to exercise their responsibilities in an ethical manner, in line with professional codes of conduct 	<p>The learner can:</p> <ul style="list-style-type: none"> • using reflective practice strategies very effectively to track progress, analyse and demonstrate insight into the impact of their course activities and experiences on their meta-skills development • evaluate a wide range of environmental and societal impacts of solutions to well-defined problems • apply a wide range of ethical principles and recognise the need for engineers to exercise their responsibilities in an ethical manner, in line with professional codes of conduct

Criterion 5 guidance

Maps to all units.

You must refer to the meta-skills assessment guidance when grading meta-skills. You can find meta-skills teaching, learning and assessment resources on [our meta-skills web page](#).

Criterion 6: Plan and manage own work effectively and efficiently — time management

Criterion 6	Achieved	Merit	Distinction
<p>Plan and manage own work effectively and efficiently — time management</p> <p>Engineering Council competence — the learner demonstrates that they:</p> <ul style="list-style-type: none"> identify, organise and use resources effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact 	<p>The learner demonstrates the ability to meet set or agreed deadlines.</p> <p>The learner can:</p> <ul style="list-style-type: none"> apply a satisfactory systematic approach, as given in the unit specifications, to the solution of well-defined problems 	<p>The learner demonstrates the ability to effectively manage workload to agreed deadlines.</p> <p>The learner can:</p> <ul style="list-style-type: none"> apply a well-developed substantiated systematic approach to the solution of well-defined problems 	<p>The learner demonstrates the ability to confidently manage workload and consistently meet deadlines.</p> <p>The learner can:</p> <ul style="list-style-type: none"> apply a significant substantiated systematic approach to the solution of well-defined problems

Criterion 6 guidance

This criterion can be mainly evidenced by the mandatory Professional Practice in Engineering unit, and supported by evidence from the mandatory optional units.

Learners' ability to plan and deliver to deadlines for the mandatory and mandatory optional units is taken into consideration when deciding grade boundaries.

Criterion 7: The ability to work with others constructively, explain ideas and proposals clearly, and discuss issues objectively and constructively

Criterion 7	Achieved	Merit	Distinction
<p>The ability to work with others constructively, explain ideas and proposals clearly, and discuss issues objectively and constructively</p> <p>Engineering Council competence — the learner demonstrates that they:</p> <ul style="list-style-type: none"> • communicate effectively with others, at all levels, in English • work effectively with colleagues, clients, suppliers or the public • demonstrate personal and social skills and awareness of diversity and inclusion issues 	<p>The learner can work well in a team and demonstrate some team leadership attributes.</p> <p>The learner can:</p> <ul style="list-style-type: none"> • recognise the importance of equality, diversity and inclusion in the workplace • communicate well with technical and non-technical audiences 	<p>The learner can work effectively in a team and demonstrate some effective team leadership attributes.</p> <p>The learner can:</p> <ul style="list-style-type: none"> • recognise and practise the importance of equality, diversity and inclusion in the workplace • communicate effectively with technical and non-technical audiences 	<p>The learner can work very effectively in a team and is able to demonstrate the ability to confidently take the lead.</p> <p>The learner can:</p> <ul style="list-style-type: none"> • recognise, practise and show lead on the importance of equality, diversity and inclusion in the workplace • communicate effectively, showing leadership with technical and non-technical audiences

Criterion 7 guidance

This criterion can be mainly evidenced by the mandatory Professional Practice in Engineering unit, and supported by evidence from the mandatory optional units.

Learners have extensive opportunities to communicate throughout various units. The range and application of communication skills defines the grade boundaries.

Additional grading guidance

Engineering Council areas of learning and associated key competences

As the framework expands, there may be opportunities to include more Engineering Council key competences in the grading matrix. These are here for reference.

Area of learning	Skills
Science, mathematics and engineering principles	<p>H1. Apply knowledge of mathematics, statistics, natural science and engineering principles to well-defined problems.</p> <p>This may be evidenced by the Engineering Mathematics 1 and Engineering Principles units, as well as the mandatory optional units.</p> <p>The range and depth of knowledge of mathematics, statistics, natural science and engineering principles applied to well-defined problems defines the grade boundaries:</p> <p>Achieved: The minimum range of knowledge as given in the unit specifications.</p> <p>Merit: An extended range of knowledge applied or depth of treatment.</p> <p>Distinction: A wide range of knowledge applied throughout the course.</p>

Area of learning	Skills
<p>Engineering analysis</p>	<p>H2. Analyse well-defined problems reaching substantiated conclusions.</p> <p>This may be evidenced by the mandatory Professional Practice in Engineering unit, as well as the mandatory optional units.</p> <p>The largest well-defined problem is the tasks carried out in the mandatory Professional Practice in Engineering unit, but these will likely be enhanced by tasks in the mandatory optional units.</p> <p>The range and depth of analysis leading to substantiated conclusions to well-defined problems defines the grade boundaries:</p> <p>Achieved: Analyse well-defined problems reaching satisfactory conclusions, meeting the minimum criteria given in the unit specifications.</p> <p>Merit: Analyse well-defined problems, reaching satisfactory and substantiated conclusions.</p> <p>Distinction: Analyse well-defined problems, reaching significant substantiated conclusions.</p>

Area of learning	Skills
<p>Engineering analysis (continued)</p>	<p>H3. Use appropriate computational and analytical techniques to solve well-defined problems, recognising the limitations of the techniques employed.</p> <p>This can be evidenced by the mandatory optional units and/or other units that employ computational and analytical techniques.</p> <p>The range and depth of applied computational and analytical techniques to the solution of well-defined problems defines the grade boundaries:</p> <p>Achieved: Use appropriate computational and analytical techniques, as given in the unit specifications, to solve well-defined problems, recognising the limitations of the techniques employed.</p> <p>Merit: Use an extended range or application of appropriate computational and analytical techniques to solve well-defined problems, recognising the limitations of the techniques employed.</p> <p>Distinction: Use a wide range or application of appropriate computational and analytical techniques to solve well-defined problems, recognising the limitations of the techniques employed.</p>

Area of learning	Skills
<p>Engineering analysis (continued)</p>	<p>H4. Select and use technical literature and other sources of information to address well-defined problems.</p> <p>This can be evidenced by the mandatory Professional Practice in Engineering unit, as well as the mandatory optional units.</p> <p>Some unit specifications define a range of sources of information, while other unit specifications may not. The amount, accuracy and use of these information sources define the grade boundaries:</p> <p>Achieved: Select and use a limited range of technical literature and other sources of information, as given in the unit specifications, to address well-defined problems.</p> <p>Merit: Select and use an extended range of technical literature and other sources of information to address well-defined problems.</p> <p>Distinction: Select and use a wide range of technical literature and other sources of information to address well-defined problems.</p>

Area of learning	Skills
<p>Design</p>	<p>H5. Design solutions for well-defined technical problems and assist with the design of systems, components or processes to meet business, customer or user needs as appropriate. This involves consideration of applicable health and safety; diversity, inclusion, cultural, societal and environmental matters; codes of practice; and industry standards.</p> <p>This can be mainly evidenced by the mandatory Professional Practice in Engineering unit, and supported by evidence from the mandatory optional units. Many factors define the grade boundaries as given below:</p> <p>Achieved: Design minimum viable solutions for well-defined technical problems and assist with the design of systems, components or processes to meet business, customer or user needs as appropriate. This involves consideration of applicable health and safety; diversity; inclusion, cultural, societal and environmental matters; codes of practice; and industry standards, as given in the unit specifications.</p> <p>Merit: Design extended viable solutions for well-defined technical problems and assist with the design of systems, components or processes to meet business, customer or user needs as appropriate. This will involve consideration of applicable health and safety; diversity; inclusion, cultural, societal and environmental matters; codes of practice; and industry standards.</p> <p>Distinction: Design fully fleshed out, viable solutions for well-defined technical problems and assist with the design of systems, components or processes to meet business, customer or user needs as appropriate. This will involve consideration of applicable health and safety; diversity, inclusion, cultural, societal and environmental matters; codes of practice; and industry standards.</p>

Area of learning	Skills
<p>Integrated/systems approach</p>	<p>H6. Apply a systematic approach to the solution of well-defined problems.</p> <p>This can be mainly evidenced by the mandatory Professional Practice in Engineering unit, and supported by evidence from the mandatory optional units.</p> <p>This competence will most likely be linked to H5. The main source of evidence here will also be the Professional Practice in Engineering unit. There may be sub-elements for this fed by the work carried out in the mandatory optional units. The main difference is that H5 focuses on the outcome of the design process, whereas H6 focuses on the process itself. It may be that the correct process was followed but the outcome is flawed due to inaccurate data. The actual process used defines the grade boundaries as given below:</p> <p>Achieved: Apply a satisfactory systematic approach, as given in the unit specifications, to the solution of well-defined problems.</p> <p>Merit: Apply a well-developed, substantiated, systematic approach to the solution of well-defined problems.</p> <p>Distinction: Apply a significant, substantiated, systematic approach to the solution of well-defined problems.</p>

Area of learning	Skills
<p>Sustainability</p>	<p>H7. Evaluate the environmental and societal impact of solutions to well-defined problems.</p> <p>This may be evidenced predominately by the mandatory Professional Practice in Engineering unit, supported by the mandatory optional units.</p> <p>The Professional Practice in Engineering unit requires evidence of environmental and societal impact of solutions to well-defined projects. This evidence may be supported by tasks carried out in the mandatory optional units. The range, accuracy and final evaluation of relevant factors define the grade boundaries:</p> <p>Achieved: Evaluate a minimum range of environmental and societal impacts of solutions to well-defined problems.</p> <p>Merit: Evaluate an extended range of environmental and societal impacts of solutions to well-defined problems.</p> <p>Distinction: Evaluate a wide range of environmental and societal impacts of solutions to well-defined problems.</p>

Area of learning	Skills
<p>Ethics</p>	<p>H8. Apply ethical principles and recognise the need for engineers to exercise their responsibilities in an ethical way, and in line with professional codes of conduct.</p> <p>This may be evidenced predominately by the mandatory Professional Practice in Engineering unit, supported by the mandatory optional units.</p> <p>The professional practice unit requires evidence of applying ethical principles to solutions of well-defined projects. This evidence may be supported by tasks carried out in the mandatory optional units. The range and application of relevant factors define the grade boundaries:</p> <p>Achieved: Apply a minimum range of ethical principles and recognise the need for engineers to exercise their responsibilities in an ethical way, and in line with professional codes of conduct.</p> <p>Merit: Apply an extended range of ethical principles and recognise the need for engineers to exercise their responsibilities in an ethical way, and in line with professional codes of conduct.</p> <p>Distinction: Apply a wide range of ethical principles and recognise the need for engineers to exercise their responsibilities in an ethical way, and in line with professional codes of conduct.</p>

Area of learning	Skills
<p>Risk</p>	<p>H9. Identify, evaluate and mitigate risks (the effects of uncertainty) associated with a well-defined project or activity.</p> <p>This may be evidenced predominately by the mandatory Professional Practice in Engineering unit, supported by the mandatory optional units.</p> <p>The Professional Practice in Engineering unit requires evidence of risk identification to solutions of well-defined projects. This evidence may be supported by tasks carried out in the mandatory optional units. The range and application of relevant factors define the grade boundaries:</p> <p>Achieved: Identify, evaluate and mitigate a minimum range of risks (the effects of uncertainty) associated with a well-defined project or activity.</p> <p>Merit: Identify, evaluate and mitigate an extended range of risks (the effects of uncertainty) associated with a well-defined project or activity.</p> <p>Distinction: Identify, evaluate and mitigate a wide range of risks (the effects of uncertainty) associated with a well-defined project or activity.</p>

Area of learning	Skills
<p>Security</p>	<p>H10. Adopt a holistic and proportionate approach to the mitigation of security risks.</p> <p>This may be evidenced predominately by the mandatory Professional Practice in Engineering unit, supported by the mandatory optional units.</p> <p>The Professional Practice in Engineering unit requires evidence of risk management to solutions of well-defined projects. This evidence may be supported by tasks carried out in the mandatory optional units. The range and application of relevant factors define the grade boundaries:</p> <p>Achieved: Adopt a holistic and proportionate satisfactory approach to the mitigation of security risks.</p> <p>Merit: Adopt a holistic and proportionate extended approach to the mitigation of security risks.</p> <p>Distinction: Adopt a holistic and proportionate wide-ranging approach to the mitigation of security risks.</p>

Area of learning	Skills
<p>Equality, diversity and inclusion</p>	<p>H11. Recognise the importance of equality, diversity and inclusion in the workplace.</p> <p>This may be evidenced predominately by the mandatory Professional Practice in Engineering unit, supported by the mandatory optional units.</p> <p>The Professional Practice in Engineering unit requires evidence of teamworking, as well as recognition of equality and diversity in the workplace. This evidence may be supported by tasks carried out in the mandatory optional units. The range and application of relevant factors define the grade boundaries:</p> <p>Achieved: Recognise the importance of equality, diversity and inclusion in the workplace.</p> <p>Merit: Recognise the importance of and practise equality, diversity and inclusion in the workplace.</p> <p>Distinction: Recognise the importance of, practise and show lead on equality, diversity and inclusion in the workplace.</p>

Area of learning	Skills
<p>Practical and workshop skills</p>	<p>H12. Use practical laboratory and workshop skills to investigate well-defined problems.</p> <p>This may be evidenced by the mandatory optional units, as well as the mandatory Professional Practice in Engineering unit.</p> <p>Throughout the course, learners develop a range of practical laboratory and workshop skills. These will mainly be evidenced in relevant mandatory optional units, but may also form part of the tasks in the Professional Practice in Engineering unit. The range and application of relevant skills define the grade boundaries:</p> <p>Achieved: Use a minimum range of practical laboratory and workshop skills to investigate well-defined problems within the scope of the relevant units.</p> <p>Merit: Use an extended range of practical laboratory and workshop skills to investigate well-defined problems within the scope of the relevant units.</p> <p>Distinction: Use a wide range of practical laboratory and workshop skills to investigate well-defined problems within the scope of the relevant units.</p>

Area of learning	Skills
<p>Materials, equipment, technologies and processes</p>	<p>H13. Select and apply appropriate materials, equipment, engineering technologies and processes to plan and carry out well-defined programmes of work.</p> <p>This may be evidenced by the mandatory optional units as well as the mandatory Professional Practice in Engineering unit.</p> <p>Throughout the course learners will need to apply appropriate materials, equipment, engineering technologies and processes as defined in the unit specifications. This will mainly be evidenced in relevant mandatory optional units but may also form part of the tasks in the Professional Practice in Engineering unit. The range and application of relevant skills and techniques define the grade boundaries:</p> <p>Achieved: Select and apply appropriate materials, equipment, engineering technologies and processes, to a minimum standard, as given in the relevant unit specifications, to plan and carry out well-defined programmes of work.</p> <p>Merit: Select and apply an extended range of materials, equipment, engineering technologies and processes, to an enhanced standard, to plan and carry out well-defined programmes of work.</p> <p>Distinction: Select and apply a wide range of materials, equipment, engineering technologies and processes, to an exemplary standard, to plan and carry out well-defined programmes of work.</p>

Area of learning	Skills
<p>Quality management</p>	<p>H14. Recognise the need for quality management systems and continuous improvement in the context of well-defined problems.</p> <p>This may be evidenced predominately by the mandatory Professional Practice in Engineering unit, supported by the mandatory optional units.</p> <p>Learners may have limited exposure to quality management systems depending on the mandatory optional units delivered. However, outcome 3 of the Professional Practice in Engineering unit gives learners skills in project management and can be used to introduce learners to the concepts of quality management. The range and application of relevant skills and techniques as applied to quality management will define the grade boundaries:</p> <p>Achieved: Recognise the need for quality management systems and continuous improvement in the context of well-defined problems to meet the minimum requirements of relevant units.</p> <p>Merit: Recognise the need for quality management systems and continuous improvement in the context of well-defined problems to meet and implement requirements of relevant units.</p> <p>Distinction: Recognise the need for quality management systems and continuous improvement in the context of well-defined problems to meet, implement and track the minimum requirements of relevant units.</p>

Area of learning	Skills
<p>Engineering and project management</p>	<p>H15. Apply knowledge of engineering management principles, commercial context and project management to well-defined problems.</p> <p>This may be evidenced predominately by the Professional Practice in Engineering unit, supported by the mandatory optional units.</p> <p>Learners may have limited exposure to project management systems depending on the mandatory optional units delivered. However, outcome 3 of the Professional Practice in Engineering unit will give learners skills in project management. The range and application of relevant skills and techniques as applied to project management define the grade boundaries:</p> <p>Achieved: Apply minimal knowledge of engineering management principles, commercial context and project management to well-defined problems as defined in relevant unit specifications.</p> <p>Merit: Apply an extended range of knowledge of engineering management principles, commercial context and project management to well-defined problems as defined in relevant unit specifications.</p> <p>Distinction: Apply a wide-ranging knowledge of engineering management principles, commercial context and project management to well-defined problems as defined in relevant unit specifications.</p>

Area of learning	Skills
<p>Teamwork</p>	<p>H16. Function effectively as an individual and as a member of a team.</p> <p>This may be evidenced predominately by the mandatory Professional Practice in Engineering unit, supported by the mandatory optional units.</p> <p>Learners will have varying degrees of exposure to teamworking throughout various units. The most likely source of evidence is the Professional Practice in Engineering unit, supported by evidence from the mandatory optional units. The range and application of teamworking skills define the grade boundaries:</p> <p>Achieved: Function well as an individual and as a member of a team.</p> <p>Merit: Function effectively as an individual and as a member of a team.</p> <p>Distinction: Function effectively, showing leadership as an individual and as a member of a team.</p>

Area of learning	Skills
<p>Communication</p>	<p>H17. Communicate effectively with technical and non-technical audiences.</p> <p>This may be evidenced predominately by the mandatory Professional Practice in Engineering unit, supported by the mandatory optional units.</p> <p>Learners have extensive exposure to communication throughout various units. The most likely source of evidence is the Professional Practice in Engineering unit (outcome 4), supported by evidence from the mandatory optional units. The range and application of communication skills define the grade boundaries:</p> <p>Achieved: Communicate well with technical and non-technical audiences.</p> <p>Merit: Communicate effectively with technical and non-technical audiences.</p> <p>Distinction: Communicate effectively, showing leadership with technical and non-technical audiences.</p>

Area of learning	Skills
<p>Lifelong learning</p>	<p>H18. Plan and record self-learning and improve performance, as the foundation for lifelong learning/CPD.</p> <p>This may be evidenced predominately by the Professional Practice in Engineering unit, supported by the opportunities in the mandatory optional units.</p> <p>The evidence for this comes from outcome 5 of the Professional Practice in Engineering unit, supported by additional work in the mandatory optional units. Each learner will have a different meta-skills profile, but the range and application of communication skills define the grade boundaries:</p> <p>Achieved: Plan and record self-learning and improve performance, as the foundation for lifelong learning/CPD, to the minimum requirements of the unit specification.</p> <p>Merit: Plan and record self-learning and improve performance, as the foundation for lifelong learning/CPD, detailing progress made throughout the course.</p> <p>Distinction: Plan and record self-learning and improve performance, as the foundation for lifelong learning/CPD, effectively detailing progress made throughout the course.</p>

Administrative information

Published: April 2026 (version 1.0)

History of changes

Version	Description of change	Date
1.0	<p>'Valid from' date on front cover updated to 'August 2026' and 'This qualification is available in a restricted delivery model' line deleted.</p> <p>On 1 February 2026, Qualifications Scotland replaced SQA as the new national awarding body. We have updated the logo and 'SQA' throughout the document to reflect this.</p> <p>What you need to do differently</p> <p>There is no change to learning, teaching and assessment.</p>	April 2026

Please check [our website](#) to ensure you are using the most up-to-date version of this guide.

If a unit is revised:

- no new centres can be approved to offer the previous version of the unit
- centres should only enter learners for the previous version of the unit if they can complete it before its finish date

For more information on NextGen: HN Qualifications please visit the [NextGen: HN web page](#).

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