Next Generation Higher National Unit Grading Pack

Higher National Certificate Computing

Qualification code: GT6G 47

This qualification is available in a restricted delivery model from academic session 2025

This grading pack provides information about the process of grading the Higher National Certificate (HNC) Computing. 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

Grading in Next Generation: Higher National (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.

SQA'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 which case the Learning for Sustainability content will contribute to a learner's whole-qualification grade through the grading matrix.

Grading matrix

Criterion 1 descriptors

Criterion 1	Achieved	Merit	Distinction
Demonstrate foundational knowledge of computing concepts and current trends, and apply them to develop solutions to computing problems	The learner: • provides a correct and clear explanation of core concepts in computing • describes computer system components and explains their roles and interactions • identifies emerging technologies and explains some potential impacts of their application • manages data and databases competently to achieve goals • provides a competent analysis of problem requirements and designs an appropriate solution	The learner: • provides a correct explanation of core concepts in computing, adding detail to give clarity • provides detailed descriptions of computer system components and clearly explains their roles and interactions • identifies emerging technologies and explains in detail a range of potential impacts of their application • manages data and databases proficiently to achieve goals and exemplify good practice	The learner: • provides detailed and insightful explanations of core computing concepts • produces insightful analysis by skilfully comparing and contrasting computer system component roles and interactions • identifies emerging technologies and provides insightful analysis of the potential impacts of their application with well-explained examples • manages data and databases skilfully to achieve goals and exemplify best practice

Criterion 1	Achieved	Merit	Distinction
Demonstrate foundational knowledge of computing concepts and current trends, and apply them to develop solutions to computing problems (continued)	The learner: • applies iterative development to improve solutions • conceives more than one possible solution to a problem and tests their feasibility	The learner: • provides an accurate and proficient analysis of problem requirements and designs a modular solution • methodically applies and documents iterative development to improve solution quality • conceives more than one possible solution to a problem and proficiently evaluates their feasibility and fit	The learner: • provides an accurate and skilful analysis of problem requirements and designs a high-quality modular solution • skilfully applies iterative development to optimise the performance of a problem solution, documenting the process • creatively conceives and skilfully evaluates the feasibility and fit of several alternative options to identify the best solution to a problem

Criterion 1 guidance

This criterion relates to the extent to which learners have developed their knowledge and understanding of the basic concepts and principles in computing. It also relates to the extent to which learners have developed an understanding of the evolution of computing, and how this influences current developments and trends such as cloud computing, artificial intelligence (AI) and cyber-security.

Evidence can be gathered over several units. Here are illustrative examples:

- In the mandatory Professional Practice in Computing unit, learners evidence how the digital solution they have developed contributes to digital transformation (outcomes 4 and 5). Observation of problem solving could also evidence application of knowledge.
- In the mandatory unit Computing Foundations, learners evidence their understanding of computer technologies, cyber security, statistical concepts, and algorithms (all outcomes).
- The mandatory Computing Foundations unit requires that learners perform tasks on a computer using hardware and software and secure digital data (outcomes 1 and 2).
- The mandatory Professional Practice in Computing unit requires learners to design, develop, implement and demonstrate a digital solution to a real-world problem (outcomes 3 and 5).
- The optional unit Computer Science requires learners to demonstrate the mathematical foundations of number systems, logic and computer architecture. Learners provide descriptions of computer architecture, systems software and current developments.

- The optional Cyber Security unit presents core cyber security concepts, such as the confidentiality, integrity and availability (CIA) triad and risk management. Learners evidence understanding of the history of cyber security and emerging threats such as ransomware (outcome 1).
- The optional Big Data unit explains fundamental big data concepts such as volume, variety, velocity and traces the rise of big data and data mining (outcome 1).
- The optional Cloud Computing unit covers basic cloud concepts such as infrastructure as a service (IaaS), platform as a service (PaaS), and software as a service (SaaS).
- The optional Artificial Intelligence unit requires learners to describe the historical development of AI, machine learning and deep learning (outcome 1).
- The optional Emerging Technologies unit explicitly focuses on this aspect of computing (outcomes 1, 2 and 3).

Criterion 2 descriptors

Criterion 2	Achieved	Merit	Distinction
Implement digital solutions using appropriate tools and methods	The learner: • demonstrates competence in the design, debugging and implementation of program code to the required standard in a programming language • makes use of software tools to produce digital solutions to the required standard • selects and makes competent use of digital devices to accomplish given tasks • builds computing systems and applications that demonstrate understanding of hardware and interfaces to the required standard	The learner: • demonstrates proficiency in the design, debugging and implementation of program code with some use of modularisation • makes proficient use of the functionality of software tools to produce digital solutions • selects digital devices to accomplish given tasks, justifies their selection and demonstrates proficiency in their safe use • builds computing systems and applications that demonstrate sound understanding of hardware and interfaces through their selection and use	The learner: • demonstrates expertise in the design, systematic debugging and implementation of program code with consistent use of modularisation • makes skilled and creative use of software tools to produce digital solutions • selects digital devices to accomplish given tasks, justifies their selection and demonstrates expertise in their safe use • builds computing systems and applications that show expertise in selecting and using hardware and interfaces, sometimes demonstrating best practice

Criterion 2	Achieved	Merit	Distinction
Implement digital solutions using appropriate tools and methods (continued)	The learner: • executes tasks competently using basic operating system (OS) functionality for file management	The learner: • executes tasks proficiently using both graphical (GUI) and command line interfaces (CLI) for file management and sharing	The learner: • executes tasks skilfully using both GUIs and CLIs to perform and automate tasks for system administration, including file management and sharing

Criterion 2 guidance

This criterion relates to learners designing software programs, then coding, testing and implementing them. It also relates to learners' competence in choosing and using digital devices that best match a user requirement. Learners also select software tools and use them creatively and effectively to improve productivity when developing digital solutions.

Evidence can be gathered over several units. Here are some illustrative examples:

- The mandatory Computing Foundations unit requires learners to write, test and debug computer programs (outcome 4). It also requires learners to use common application software tools, such as office suites, creative tools, and sharing platforms to improve productivity (outcome 1). Learners use digital devices, customise settings, and keep data and devices secure through methods like encryption and passwords (outcomes 1 and 2).
- The mandatory Professional Practice in Computing unit provides learners with opportunities to design, develop, test and implement code as part of a digital solution (outcome 3). Learners use software and hardware to produce computing solutions. This includes using application software to improve productivity and aid project management. Some digital solutions might involve configuring and deploying hardware devices (outcomes 1, 2, 3 and 5).
- Most optional units involve selecting and using relevant software tools and technologies like AI tools, big data analytics tools, network monitoring tools, code editors, and version control systems. Learners can demonstrate their ability to identify and select the most appropriate tools for different tasks and outcomes, for example the optional Cyber Security unit provides knowledge on how to mitigate cyber threats and attacks through techniques like intrusion detection systems, risk analysis, and operating system hardening (outcomes 4 and 5).

- The optional Software Development unit covers the full software development life cycle, including requirements analysis, design, coding, testing, and deployment. Learners develop skills in writing algorithms, using control structures, modular programming, data structures, and debugging (outcome 2).
- The optional Web Development unit involves analysing requirements, coding websites using HTML, CSS and JavaScript, testing across browsers, and publishing websites. Learners apply best practices in semantic HTML, responsive design, and user interface (UI) and user experience (UX) design (outcomes 2, 3 and 4).
- The optional Computer Science unit provides important foundations through algorithms, data structures, syntax and semantics, and programming techniques like structured programming (outcome 4).

Criterion 3 descriptors

Criterion 3	Achieved	Merit	Distinction
Manage time and resources in team-based development and implementation of a digital solution	The learner: • manages time to satisfactorily fulfil most course and project requirements • manages workload sufficiently well to enable completion of course and project work	The learner: • manages time to satisfactorily fulfil course and project requirements • manages workload sufficiently well to enable completion of course and project work	The learner: • demonstrates efficient time management by pacing and prioritising to consistently meet deadlines in the course and projects • skilfully balances workload to access support and adjust effort to successfully complete course and project work ahead of schedule

Criterion 3 guidance

This criterion refers to learners' ability to meet milestones in their work, prioritise tasks appropriately, make effective use of available hardware and software resources, and adapt schedules to address shortfalls. They can evidence this across the work of all units, especially those that have a project element:

- The mandatory Professional Practice in Computing unit requires project planning and evidence of time management (outcomes 1, 2 and 5). The evidence comprises project plans and timelines, notes from meetings, and team evaluations.
- The optional Software Development unit requires learners to manage time and resources to carry out requirements analysis and create design documents, before building and deploying a software application (outcomes 2, 3 and 4).
- The optional Web Development unit requires learners to manage time and resources to build and deploy a web application (outcomes 1, 2, and 3).
- The optional Network Infrastructure unit requires learners to manage time and resources to build a network infrastructure (cabling schemes, internet protocol (IP) addressing) and then secure and maintain it (outcomes 2, 3 and 4).
- Testing documents, project reviews, solution deployment, and budgeting could provide further evidence of time and resource management across units.

Criterion 4 descriptors

Criterion 4	Achieved	Merit	Distinction
Share findings and insights with team members and collaborate to create a digital solution	The learner: • communicates details and findings with team members to convey information • adapts their communication style for different audiences and contexts by making competent use of visuals and examples • engages with team members to ensure priorities are met and tasks are completed to the required standard	The learner: • clearly communicates details, findings and insights to team members in an accessible manner • structures communication and presentation of information effectively for different audiences and contexts through proficient use of visuals and examples • demonstrates strong commitment to engaging with team members to ensure priorities are met and tasks are completed better than the required standard	The learner: • fully and skilfully communicates complex concepts, discoveries and ideas to facilitate team collaboration • creates detailed yet readable reports, visualisations, demonstrations and presentations when leading discussions • demonstrates outstanding commitment to team members by prioritising collaborative work and following best practice in meeting priorities and completing most tasks to a high standard

Criterion 4 guidance

This criterion refers to:

- clarity, structure, and adaptability of communications
- the ability to explain complex concepts
- proactive sharing of insights
- leadership in facilitating team collaboration

The characteristics of effective communication are awareness of audience, clarity and precision, making use of visual aids, and providing explanations to questions. Evidence could come from observations, communications, meeting notes, presentations, visualisations, and other artifacts. The primary source of evidence comes from the project and teamwork in Professional Practice in Computing:

- The mandatory unit Professional Practice in Computing requires learners to communicate in teamwork, and in presenting and demonstrating a digital solution (outcomes 5 and 6). Meeting notes might demonstrate sharing insights.
- The optional unit Data Science requires learners to evidence that they can create data visualisations to communicate and explain the features of effective data communication (outcomes 5 and 6).
- Those optional units that require coding documentation also provide evidence of communication competence (Software Development, Web Development, Computer Science).

Criterion 5 descriptors

Criterion 5	Achieved	Merit	Distinction
Observe security principles and act ethically and legally in digital practice	The learner: • submits individual work that is authentic, citing sources when necessary, in line with the required standard • complies with intellectual property restrictions with sufficient rigour to meet the required standard • participates in discussions on ethics of computing and references ethics in reports where required	The learner: • submits individual work that can easily be authenticated, with all sources cited in detail • demonstrates close adherence to copyright, fair use and open-source license terms in all aspects of work • demonstrates a commitment to debating ethical computing issues, and evidences ethical approaches	The learner: • mostly models best practice in citing sources, and evidences academic honesty in submitting clearly authentic individual work • demonstrates consistent and rigorous adherence to copyright, fair use, and open-source license terms in all aspects of work • demonstrates a keen interest in debating ethical computing issues, and evidences consistent consideration of ethical implications of technologies

Criterion 5 guidance

This criterion relates to learners' observed behaviours during the course. It covers aspects of their work such as respecting intellectual property, protecting confidential data, considering bias, and demonstrating integrity in completing their coursework. Consideration of ethical issues in computing should be present in assessment evidence and coursework submissions, including specific consideration of sustainability issues and links to the United Nations (UN) Sustainable Development Goals (SDGs):

- The mandatory unit Professional Practice in Computing requires learners to acknowledge sources for their developed solution, to work respectfully and in harmony with their team, and to exhibit professional practice and behaviours (outcome 6).
- The optional unit Artificial Intelligence specifically addresses ethical issues (outcome 4).
- The optional units in data science (Data Science and Big Data) address issues of bias and their data storage and processing requirements have implications for sustainability.
- The requirements analysis in the optional Software Development unit could include security and ethics considerations. Testing and code reviews would be evidence of secure coding practices.
- The optional Web Development unit requires security skills such as input validation, encryption and access controls.
- In the optional Network Infrastructure unit, firewall configurations, encryption, and access controls would show security implementation abilities.

Criterion 6 descriptors

Criterion 6	Achieved	Merit	Distinction
Reflect on and improve own digital practice	The learner: • provides a satisfactory assessment of computing strengths and weaknesses in their work, to the required standard • satisfactorily reviews progress on goals using feedback from tutors • demonstrates adequate understanding and skills in aspects of computing not covered in the course, by integrating new knowledge or skills into their coursework	The learner: • provides a proficient self-assessment of multiple computing strengths and weakness, with specific examples of how to improve • uses feedback from tutors effectively to track progress on learning goals, updating them to ensure they meet targets • demonstrates good understanding and skills competence in several aspects of computing not covered in the course, by integrating new knowledge or skills into their work and sharing with peers	The learner: • provides in-depth self-assessment of their performance, with insightful identification of areas for growth and an improvement plan • seeks regular feedback from tutors and peers and uses it effectively to track progress against learning goals, adapting them to ensure they meet targets • demonstrates sound understanding and high levels of skills proficiency in several aspects of computing not covered in the course, by integrating new knowledge or skills into their work and providing coaching to peers

Criterion 6 guidance

This criterion relates to learners' ability to exercise objectivity in judging their own work and reviewing their own approaches to their learning. They should evidence the ability to set specific measurable goals, respond to feedback, monitor their progress and make adjustments to stay on course. It also relates to the extent to which learners evidence an appetite for learning and self-improvement. They can evidence this by building skills beyond those taught by engaging in self-teaching or gaining work experience in a relevant field.

Evidence can be gathered across all units of the qualification. Here are illustrative examples:

- The mandatory unit Professional Practice in Computing provides robust evidence of this competence (outcomes 1, 2 and 6). Self-evaluations, reflections, and demonstrations of new skills acquired would directly demonstrate reflection and improvement.
- The optional Software Development unit has code reviews, testing, debugging, and refactoring that could provide opportunities to reflect and improve programming skills.
- The optional Data Science unit provides an opportunity for iterating on data transformations, visualisations, and analysis, to evidence improving data skills.
- The optional Web Development unit requires testing websites across browsers and devices, fixing bugs, and improving code quality, to evidence web development skill growth.

Criterion 7 descriptors

Criterion 7	Achieved	Merit	Distinction
Develops meta-skills	The learner adequately engages with the process of meta-skills development in the context of the qualification by: • carrying out a 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 • using reflective practice strategies to track progress and analyse the links between course activities, experiences, and meta-skills development	The learner demonstrates a clear commitment to the process of meta-skills development in the context of the qualification by: • carrying out a 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 • using reflective practice strategies to track progress and demonstrate some insight into the impact of their course activities and experiences on their meta-skills development	The learner demonstrates a strong commitment to the process of meta-skills development in the context of the qualification by: • carrying out a 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 • using reflective practice strategies very effectively to track progress and demonstrate insight into the impact of their course activities and experiences on their meta-skills development

Criterion 7 guidance

Practitioners must make this judgement alongside the separate meta-skills assessment guidance produced.

This guidance details the expectations of learners' engagement with meta-skills, and how we expect them to go about this in the context of their particular qualification.

Competence in individual meta-skills is not being judged here, for example the quality of a learner's feeling or creativity. Rather, it is the process of development the learner goes through — planning, developing, and reflecting — that should be evidenced and assessed.

Although a meta-skills outcome is included in one unit, evidence of meta-skills development can be gathered from any activity at any time during the course. For meaningful reflection to take place, the process of meta-skills development should happen continually throughout the course. The range of contexts in which this can happen is very wide, and dependent on the sector, as well as individual preferences. Each unit signposts opportunities for meta-skills development.

Administrative information

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History of changes

Version	Description of change	Date

Please check SQA's 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 email nextgen@sqa.org.uk.