5220-30 Level 3 Advanced Technical Certificate in Digital Technologies

2019

Qualification Report

Contents

Introduction

This document has been prepared by the Chief Examiner and Principal Moderator; it is designed to be used as a feedback tool for centres in order to enhance teaching and preparation for assessment. It is advised that this document is referred to when planning delivery and when preparing candidates for City & Guilds Technical assessments.
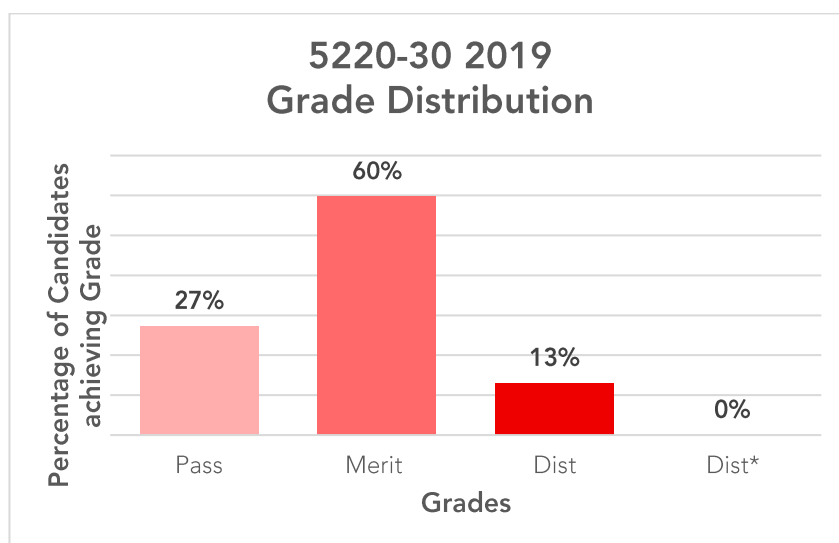
This report provides general commentary on candidate performance in both the synoptic assignment and theory exam. It highlights common themes in relation to the technical aspects explored within the assessment, giving areas of strengths and weakness demonstrated by the cohort of candidates who sat assessments in the 2019 academic year. It will explain aspects which caused difficulty and potentially why the difficulties arose.

The document provides commentary on the following assessments:

- 5220-030/530 Level 3 Digital Technologies – Theory exam
  - March 2019 (Spring)
  - June 2019 (Summer)
- 5220-031 Level 3 Digital Technologies (360) – Synoptic Assignment

Qualification Grade Distribution

The approximate grade distribution for this qualification is shown below:

5220-30 2019
Grade Distribution

Grade	Percentage
Pass	27%
Merit	60%
Dist	13%
Dist*	0%

Percentage of Candidates achieving Grade (y-axis) vs Grades (x-axis)

Please note City & Guilds will only report qualification grades for candidates who have achieved all of the required assessment components, including Employer Involvement, optional units and any other centre assessed components as indicated within the Qualification Handbook. The grade distribution shown above could include performance from previous years.
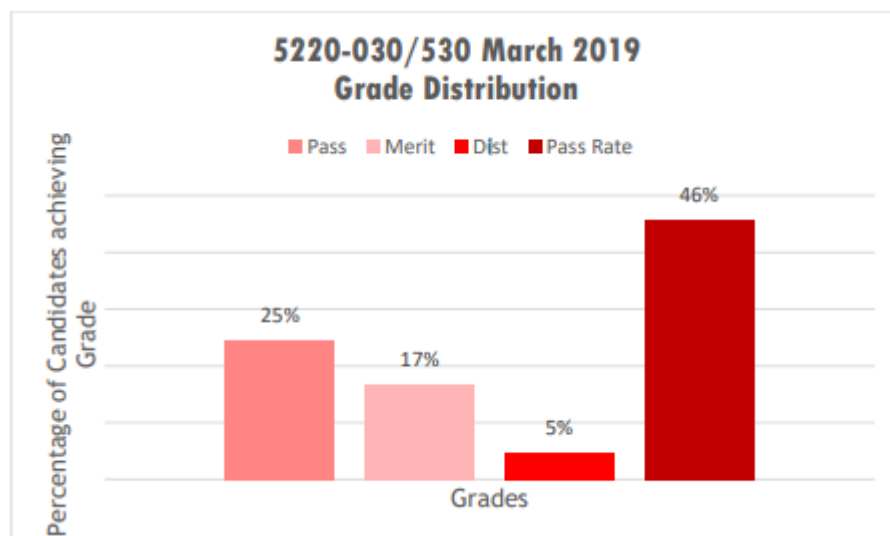
Theory Exam

Grade Boundaries

Assessment: 5220-030/530
Series: March 2019

Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel:

Total marks available	80
Pass mark	33
Merit mark	44
Distinction mark	56

The graph below shows the approximate distributions of grades and pass rate for this assessment:
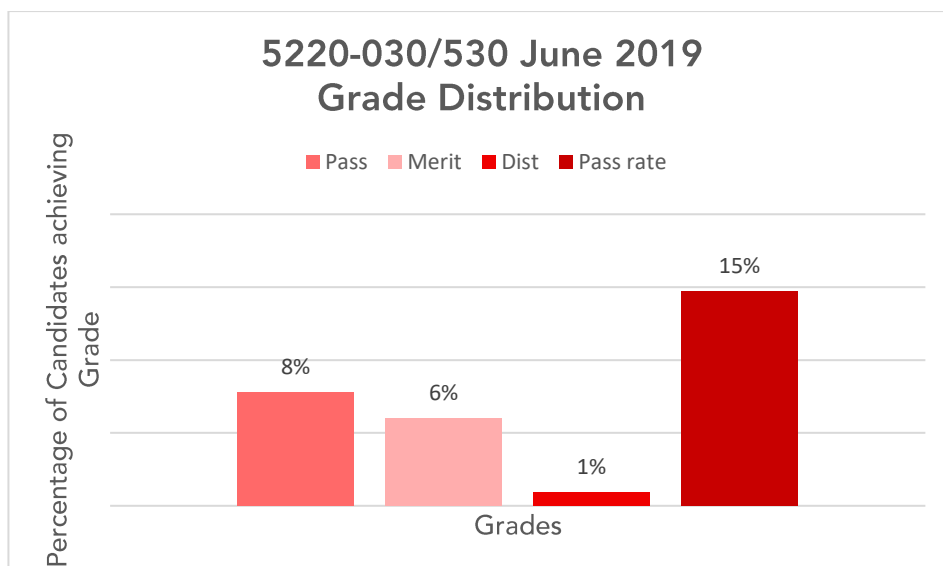
Assessment: 5220-030/530
Series: June 2019

Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel:

Total marks available	80
Pass mark	33
Merit mark	44
Distinction mark	56

The graph below shows the approximate distributions of grades and pass rate for this assessment:

Chief Examiner Commentary

5220-030/530 Level 3 Advanced Technical Certificate in Digital Technologies - Theory exam

Series 1 – March 2019

Generally, the performance of candidates was disappointing given that the structure and pattern of the questions set against the core units of the course was identical to that of the previous year and candidates underperformed in some key areas. Many candidates appeared to lack sufficient preparation for the test.

Responses to questions set against AO1 covering Recall of Knowledge produced better marks than those set against AO2 and AO4 covering Understanding and Integration respectively. It was clear that many candidates had revised well for the facts included in the scope of the test but lacked sufficient skills in the techniques required for questions demanding longer responses.

The candidates achieved some good marks in questions set against the topics covered in Unit 301, but fewer provided good responses in the other units in scope, 302, 303 and 305.

The responses of candidates in questions dealing with security were reasonable, apart from the question dealing with access control. In networking questions, candidates often failed to provide sufficient depth to demonstrate the required degree of understanding. The recall of knowledge was much stronger than the level of understanding shown.

For software development questions, candidates demonstrated limited understanding of development models. There was a wide variance in the quality of responses to the question covering Object Oriented Programming with some excellent answers from a small minority of candidates but many poor answers for this topic. Few candidates provided good answers for the format of the Hexadecimal numbering system.

Some candidates appeared to lack a good strategy for the responses required for the extended response questions set against AO4. Only a small number used the scenario to address the topics of the question directly and very few provided sufficient explanation or discussion to reach the higher bands of marking. Once again, this pattern is similar to the outcomes of previous series of this test. Many candidates seemed to have a good strategy for how a good response is structured but did not apply this to the context given to a sufficient level to gain marks in the higher bands.

Some of the topics with poor levels of performance are consistent with those of previous series of this test. Most notably, these were Networking and the use of programming paradigms.

There were some significant gaps in the demonstration of understanding of core topics and these gaps have had a negative effect on overall performance. Only a minority of candidates have achieved grades higher than 'Pass'.

The performance of the cohort that sat this exam was generally similar to the first test in the academic year. Many candidates who sat this test underperformed in all Assessment Objectives.

Some candidates were confusing the command verbs of the questions. They gave full descriptions or justifications when a statement type response was required (AO1 questions) and provided more detail for which they would not be awarded additional marks. On the other hand, in questions where candidates are given the opportunity to demonstrate their deeper understanding of topics (AO2 questions) they often provided partial answers, failing to provide justification of their points and thus missed the opportunity to score full marks. Candidates would benefit from practising exam techniques. They need to be encouraged to spend time reading the questions thoroughly and consider the command verbs before attempting their answers.

The questions based on planning process life cycles and OSI models were generally answered well. However, a large majority of candidates demonstrated little knowledge in software development. Many candidates were not able to describe different types of software.

A few candidates failed to use generic industry terminology and used brand or product names instead.

Key areas of improvement for candidates would be in core networking technologies, information security, software development and the use of different types of software.

For the extended response questions, candidates' responses had insufficient depth and in many cases were factual lists of items. Whilst answers were mostly related to the scenario, they failed to justify advantages and disadvantages of the solutions offered for the topics (upgrade to a network and secure webpage). Some candidates provided either irrelevant answers or failed to provide an answer at all. Very few candidates achieved marks in the higher bands.

When responding to these questions, candidates should consider the scenario and should include a wide range of considerations, addressing the key points from the scenario. They should include clear justifications to demonstrate their knowledge and understanding from across the content.
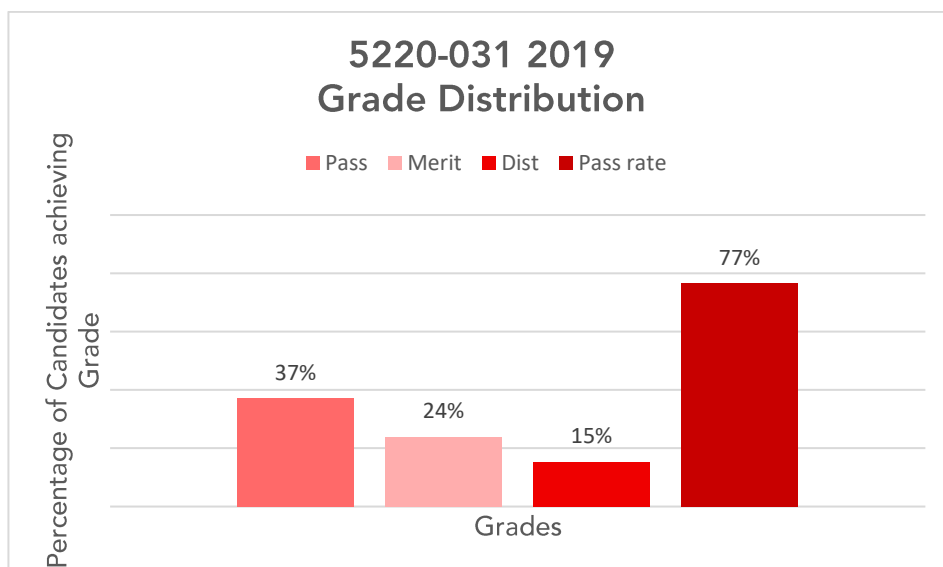
Synoptic Assignment

Grade Boundaries

Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel:

Assessment: 5220-031
Series: 2019

Total marks available	60
Pass mark	24
Merit mark	34
Distinction mark	44

The graph below shows the approximate distributions of grades and pass rate for this assessment:

Principal Moderator Commentary

This was a large cohort but quite a large number of candidates failed to submit any evidence, but the remaining substantial sample allowed moderation to be completed. In the great majority of cases, evidence was uploaded in good time. Where centres fell short of expectations, it was often if the completion and submission of the administration documents relating to observation of tasks and standardisation of the markers.

The centres uploaded most evidence required for the moderation processes to be carried out successfully. However, in a few cases, the names given to the files uploaded were confusing, making it difficult to relate the evidence to particular tasks in the assignment.

The candidate evidence was effective and allowed moderation of centre awarded marks. The candidate reports were effective in the presentation of evidence of having completed the required tasks across the range of the synoptic assessment.

A range of development strategies was used by centres to create the software solution. In the best examples of the development processes, the planning, implementation, testing and review were well planned and executed systematically.

Performance against AO1, Knowledge and recall, was demonstrated in higher scoring candidates through use of accurate and appropriate technical language. Lower scoring candidates used more general terms in their planning and written work. Centres should focus on the acquisition of the language terms outlined in the unit specifications.

Understanding, addressed in AO2, was seen where the naming conventions on files were appropriate and consistent across the cohort in most cases. In the best work, code was well-formed, correctly commented and used consistent naming styles using Camel and Pascal casing. In poorer examples of development, the naming conventions were not applied consistently and the planning for, and implantation of testing techniques was limited. In some very basic examples of code, the algorithms used were inefficient and failed to provide any error trapping or handling.

Many candidates demonstrated their skill, as set in AO3, in programming through the use of well-structured programs. Algorithms were efficient and the maintainability was improved through effective separation of concerns using modularised code. Candidates produced accurate design diagrams in the better submissions. Centres should focus on the requirements of industrial standards seen in the better submissions. Candidates should name well, be efficient in their code and separate code concerns where appropriate.

Higher scoring candidates had made good use of annotated images, drawings and diagrams in their design and planning, and had referred to them in their writing using the generated caption number generated by the word processor; this clearly indicated attention to detail as required by AO5. Good submissions had clear evidence of planning in advance of the creation of content, giving clear indication of addressing the needs of AO4 where the task requirements are integrated.

Some candidates failed to provide sufficient depth in their written answers and therefore failed to achieve high marks in the assessment objectives where discursive skills and analysis were required, particularly AO4 and AO5. However, in some cases, the answers were thoughtful and comprehensive, with suitable recommendations made to the 'client', addressing the requirements from the brief.

The quality of the review of the project was variable. Some excellent submissions had a clearly planned structure and were reflective in their content. The use of analysis in these better submissions allowed candidates to strengthen their marks in assessment objectives that required

precision and a good sense of the synoptic nature of the project. The impact of the quality of the review was most relevant to AOs 2, 4 and 5.

In general, the candidates produced good work and it was evident that centres had implemented a planning structure that allowed all candidates to attempt all of the required tasks in a timely manner.

Centres should encourage candidates to approach the whole lifecycle of software development so that they can gain marks in those areas where they are stronger so that the effect of weaker areas is mitigated.