

5220-32 Level 3 Advanced Technical Extended Diploma in Digital Technologies (720)

2018

Qualification Report

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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 2018 academic year. It will explain aspects which caused difficulty and potentially why the difficulties arose.

The document provides commentary on the following assessments;

Year 1

- 5220-030/530 Level 3 Advanced Technical Certificate in Digital Technologies (360) – Theory exam
 - February 2018 (Spring)
 - May 2018 (Summer)
- 5220-031 Level 3 Advanced Technical Certificate in Digital Technologies – Synoptic Assignment

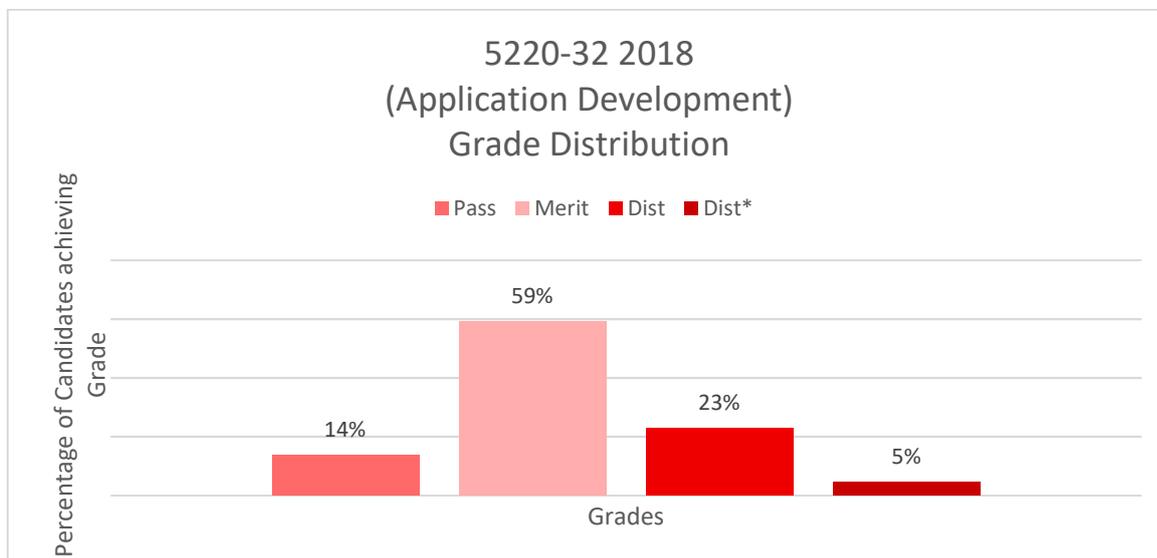
Year 2

- Pathway 1
 - 5220-035/535 Level 3 Advanced Technical Diploma in Digital Technologies (720) (Application Development) – Theory exam
 - March 2018 (Spring)
 - June 2018 (Summer)
 - 5220-046 Level 3 Advanced Technical Diploma in Digital Technologies (Application Development) – Synoptic Assignment
- Pathway 2
 - 5220-036/536 Level 3 Advanced Technical Diploma in Digital Technologies (720) (System Infrastructure) – Theory exam
 - March 2018 (Spring)
 - June 2018 (Summer)
 - 5220-039 Level 3 Advanced Technical Diploma in Digital Technologies (System Infrastructure) – Synoptic Assignment

Qualification Grade Distribution

5220-32 Level 3 Advanced Technical Extended Diploma in Digital Technologies (720) (Application Development) - Pathway 1

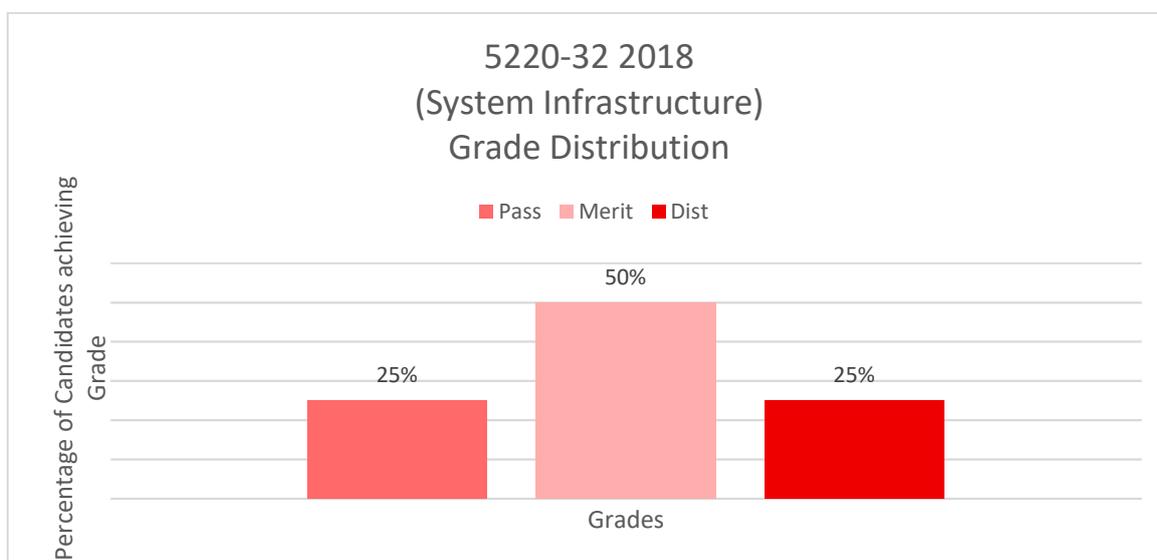
The grade distribution for this qualification is shown below;



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.

5220-32 Level 3 Advanced Technical Extended Diploma in Digital Technologies (720) (Systems Infrastructure) - Pathway 2

The grade distribution for this qualification is shown below;



Theory Exams – Year 1

5220-30 Level 3 Advanced Technical Certificate in Digital Technologies

Grade Boundaries

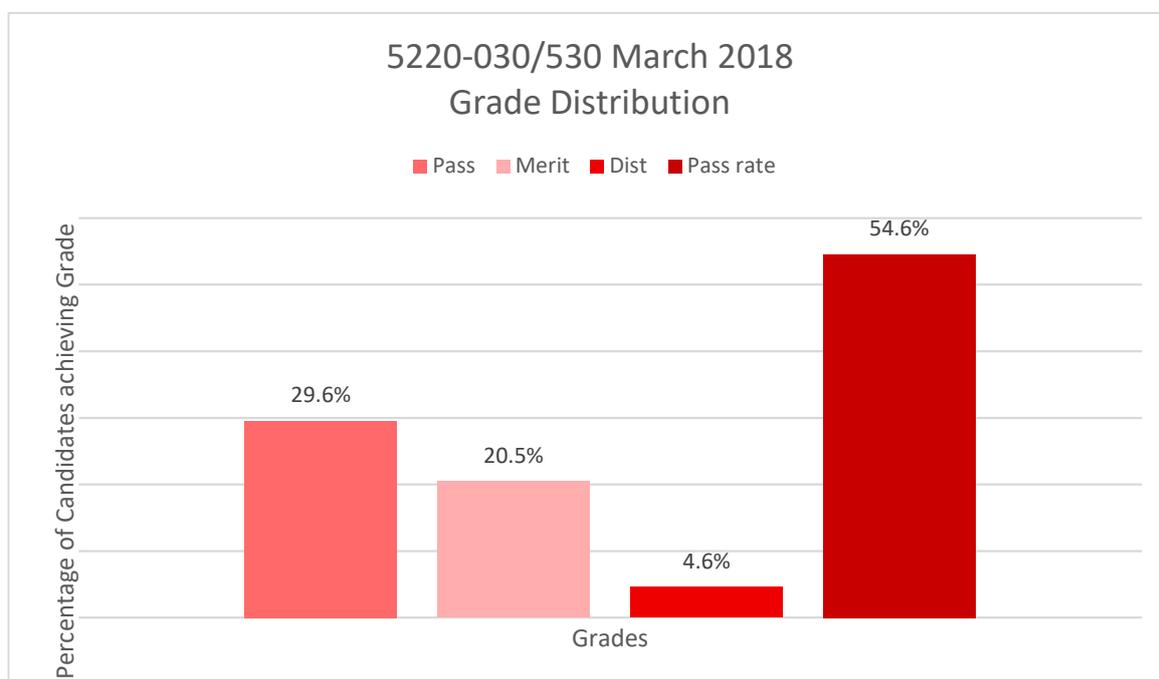
Assessment: 5220-030/530

Series: February/2018 (Spring)

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

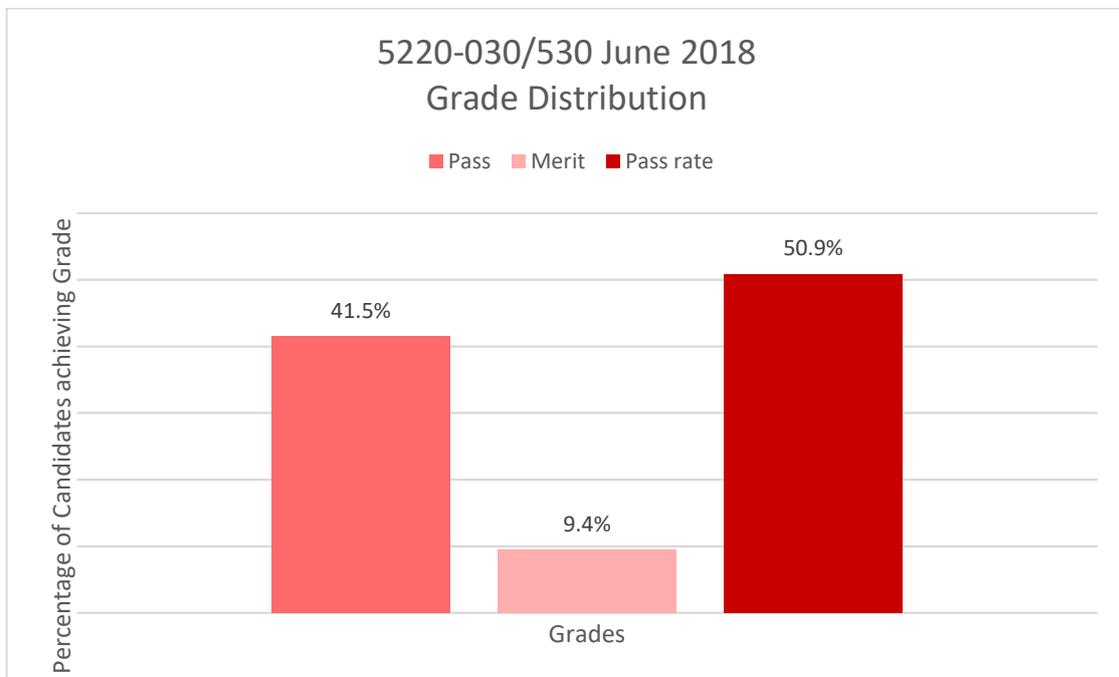
The graph below shows the distributions of grades and pass rate for this assessment;



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

Total marks available	80
Pass mark	32
Merit mark	44
Distinction mark	56

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



Chief Examiner Commentary

5220-030/530 Level 3 Advanced Certificate in Digital Technologies (360) – Theory exam

Series 1 – February 2018

Overall, performance in this exam was good and many candidates demonstrated a good level of preparation for the formal testing situation online and using paper scripts. There did not appear to be any advantage in the use of either testing system.

Where candidates were asked to state facts, many seemed to have been well-prepared for the examination and scored well in many cases.

However, in questions dealing with networking concepts, there was a general poor performance indicating lack of knowledge or recall. Some candidates also mistakenly identified devices used for network interconnection. A strong knowledge and understanding of networking concepts and processes can make a significant contribution to the grade achieved by candidates.

Candidates were stronger in answers relating to software development and hardware. However, answers relating to Object Oriented Programming were poor in many cases.

Questions asking candidates to demonstrate their understanding seemed to be let down by a lack of depth in the answers they gave. The answers often started well but failed to have explanation of the effect the point they were making might have. This would seem to demonstrate a lack of good technique in answering the types of questions represented about 60% of the available marks in the examination.

Some candidates gave long answers to the questions asking them to demonstrate integration of their knowledge across several units of the course. Few made use of the scenarios given to consider the issues relating to the scenario in depth. They offered a good range of issues that might be considered but did not analyse or discuss them; rather, they gave explanations. This meant that few gained marks in the higher bands.

There were many opportunities missed by candidates to give depth based on the demonstration of the knowledge in their answers and centres should try to capitalise on that knowledge to build stronger answers.

Series 2 – May 2018

Overall, performance in this exam was good and many candidates demonstrated a good level of preparation for the formal testing situation online and using paper scripts. There did not appear to be any advantage in the use of either testing system.

Where candidates were asked to state facts, many seemed to have been well-prepared for the examination and scored well in many cases. However, some candidates failed to identify specific elements of the questions asked, such as the word 'permanent' when dealing with computer storage options and wrongly identified RAM in this question.

However, in questions dealing with networking concepts such as the models representing the protocols used in data transfer and communication, candidates often failed to provide answers demonstrating sufficient depth of knowledge or understanding.

Some candidates were unable to differentiate between types and structures used in programming and failed to identify them correctly. In some cases although they had been correctly identified, poor explanations of their use were given.

Few candidates were successful in the answers provided for the use of different types of communication implemented in website programming.

Questions asking candidates to demonstrate their understanding seemed to be let down by a lack of depth in the answers they gave. The answers often started well but failed to give an explanation of the effect the point they were making might have. It would be difficult to overstate the value of candidates being given the chance to prepare for this type of answer which represents the largest proportion of the available marks in the examination. Candidates must be aware that any question addressing Assessment Objective 2 dealing with their understanding of the concepts in the specification, each explanation or description must have two distinct valid points to be awarded the full marks.

Some candidates gave long answers to the questions asking them to demonstrate integration of their knowledge across several units of the course. Few made use of the scenarios given to consider the issues relating to the scenario in depth. They offered a good range of issues that might be considered but did not analyse or discuss them; rather, they gave explanations. This meant that few gained marks in Band 2 and none in Band 3.

The quality of the language used in candidate responses was generally good and demonstrated a good approach to examination strategy and the use of the available time.

Overall commentary

Centres must use the examination guides to help candidates address the technique required to do well in the theory examination. Too many candidates failed to meet the

required Pass standard because they seemed lack appropriate techniques in producing answers.

Candidates must give answers of suitable depth and know how they can achieve maximum grades in the different styles of questions. This is particularly important in the questions set against Assessment Objective 4. In the better answers seen it was clear that candidates had rehearsed the type of response required and that they had been given good developmental feedback to support their preparation for the examination.

Where good marks were achieved, candidates seemed have made good use of the time allowed to focus on the elements of the tests where their marks could be maximised.

Theory Exams – Year 2

5220-32 Level 3 Advanced Technical Extended Diploma in Digital Technologies (720) (Application Development) - Pathway 1

Grade Boundaries

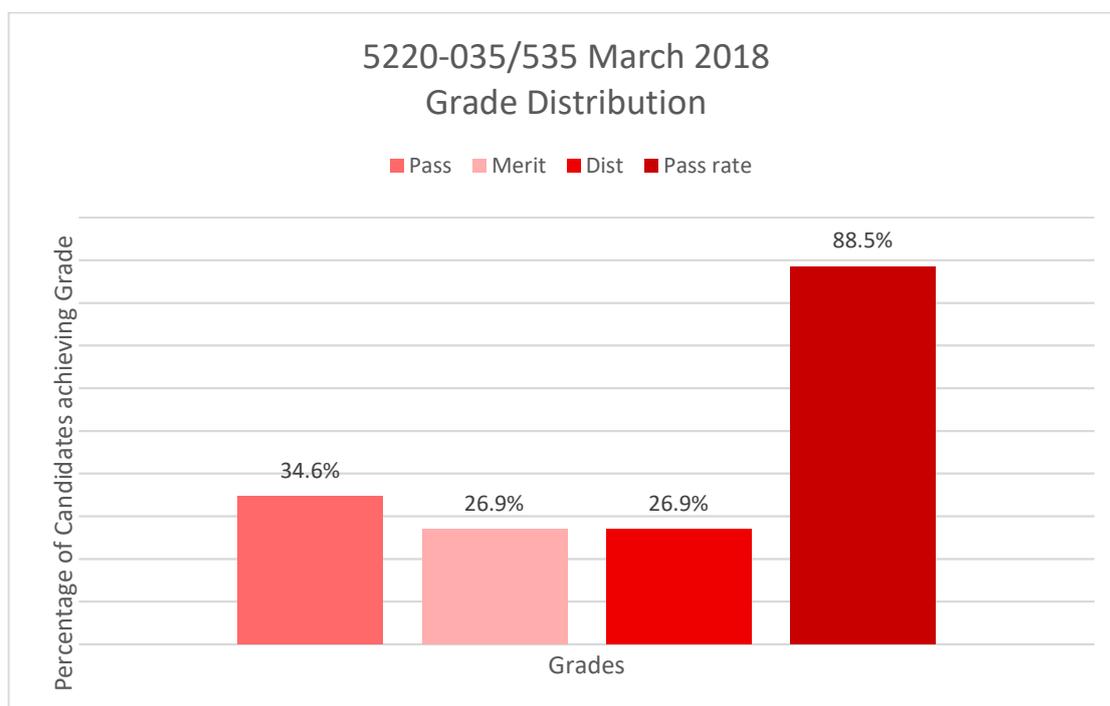
Assessment: 5220-035/535

Series: March/2018 (Spring)

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

Total marks available	80
Pass mark	33
Merit mark	45
Distinction mark	57

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

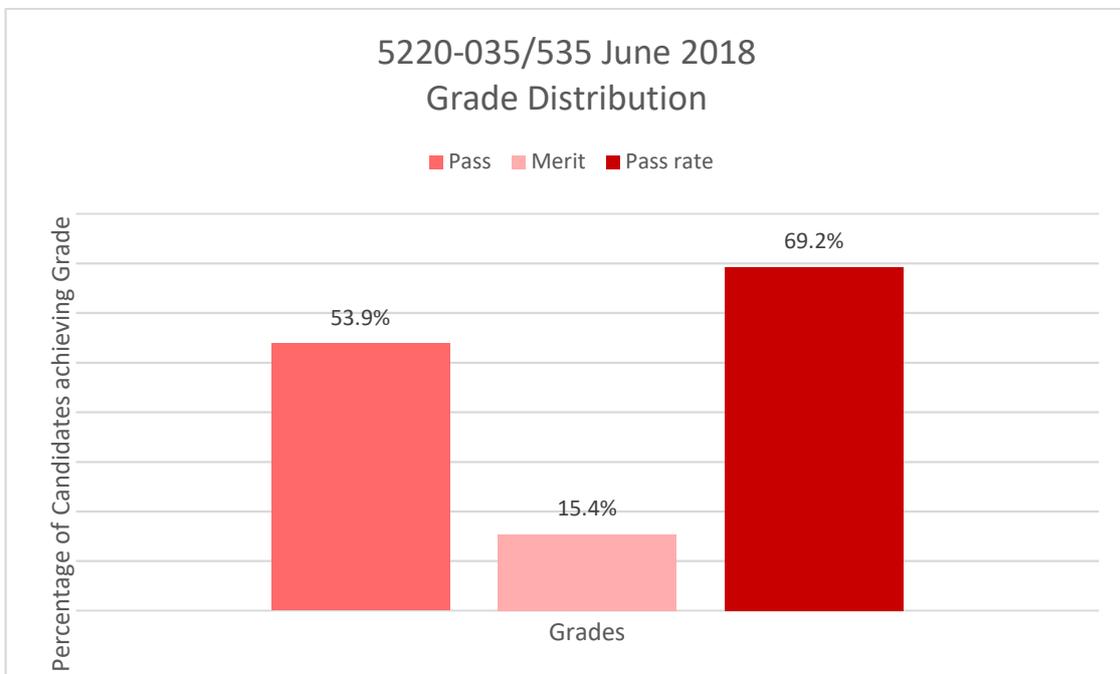


Assessment: 5220-035/535
Series: June/2018 (Summer)

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

Total marks available	80
Pass mark	33
Merit mark	45
Distinction mark	57

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



Chief Examiner Commentary

5220-035/535 Level 3 Advanced Technical Extended Diploma in Digital Technologies (720) (Application Development) - Theory exam

Series 1 – March 2018

The results in this examination were generally good and some candidates scored very well. The candidates seemed to have benefited from their assessment experiences in the first year of the course and gave very strong answers in some cases.

However, some candidates still failed to provide sufficient depth in the answers they gave to capitalise on the knowledge shown. They also failed to be effective in their answers by repeating the same point. Candidates must be supported in the techniques they use for answers asking them to demonstrate their understanding of a topic. Each point tested in these types of questions demands that candidates make two clear points about the issue to achieve full marks. Often the second point is gained by considering the effect or impact of the first point given.

Where candidates were asked to demonstrate recall and knowledge, they scored well in the identification of appropriate data types and the purpose of arrays. Their knowledge of the use of structs was poor with few candidates making an attempt in this area.

Many candidates were able to give effective explanations for the use of good practice in programming style, and were able to offer good reasons for its use. They correctly identified good reasons for the use of pseudocode in the planning stages of an application to aid the team as well as the individual developer.

Some candidates were very well prepared for the question asking candidates to interpret the purpose of a piece of pseudocode, but few could effectively offer suggestions for methods of restructuring one programming constructs into an alternative construct. It would appear that some candidates had not been sufficiently prepared for the type of question posed, despite it being demonstrated in the examination guide for this pathway. Centres must take note of the exemplar material offered in the guides to help them prepare for the examination.

Some candidates gave very good proposals for an approach to the creation of an algorithm to be used to parse a string structure of its separate words, correctly identifying the use of the position of punctuation marks in the string as the delimiters for the required parts of the string. Where candidates had been prepared well and seemed to have practiced the techniques, they achieved high grades.

Series 2 – June 2018

The results in this examination were generally good and some candidates scored very well. The candidates seemed to have benefited from their assessment experiences in the first year of the course and the first series of the examinations this year, and they gave very strong answers in some cases.

However, some candidates still failed to provide sufficient depth in the answers they gave to capitalise on the knowledge shown. They also failed to be effective in their answers by repeating the same point. Candidates must be supported in the techniques they use for answers asking them to demonstrate their understanding of a topic. Each point tested in these types of questions demands that candidates make two clear points about the issue to achieve full marks. Often the second point is gained by considering the effect or impact of the first point given.

Where candidates were asked to demonstrate recall and knowledge, they scored well in the identification of appropriate data types and the purpose of arrays. Their knowledge of the use of structs was poor with few candidates making an attempt in this area.

There were some surprisingly poor answers caused by the candidates apparently missing the required focus of the question asked, giving answers that would have been effective in different questions. Few candidates were able to identify data structures used in programming or explain their use. Many seemed to confuse individual data types used in the management of single data items with the structures used to store multiple items in memory. The answers given to describe the use of different types of variable scope were varied and few candidates achieved full marks.

Few candidates seemed to be able to consider the pseudocode snippet effectively but there were some highly effective answers where the candidates demonstrated good preparation for the type of question and an effective use of their time in the examination.

In the question dealing with integration of understanding in a given scenario, many answers were well laid out and had sufficient depth to be awarded marks in the higher bands.

Where candidates had been prepared well and seemed to have practiced the techniques, they achieved high grades. The strongest performance was noted in questions relating to generalised consideration of application development rather than its specific implementation in programming. The range of the content is clearly defined in the specification and candidates should be correctly prepared to deal with questions requiring them to identify and explain what is covered within the unit specifications.

Generally, the quality of writing was good, and many candidates demonstrated useful abilities in the construction of clear logical answers.

The level of answers in the integrated, extended questions was higher than in previous test series and this demonstrates strong support by centres for their candidates in preparation for the test.

5220-32 Level 3 Advanced Technical Extended Diploma in Digital Technologies (720) (Systems Infrastructure) - Pathway 2

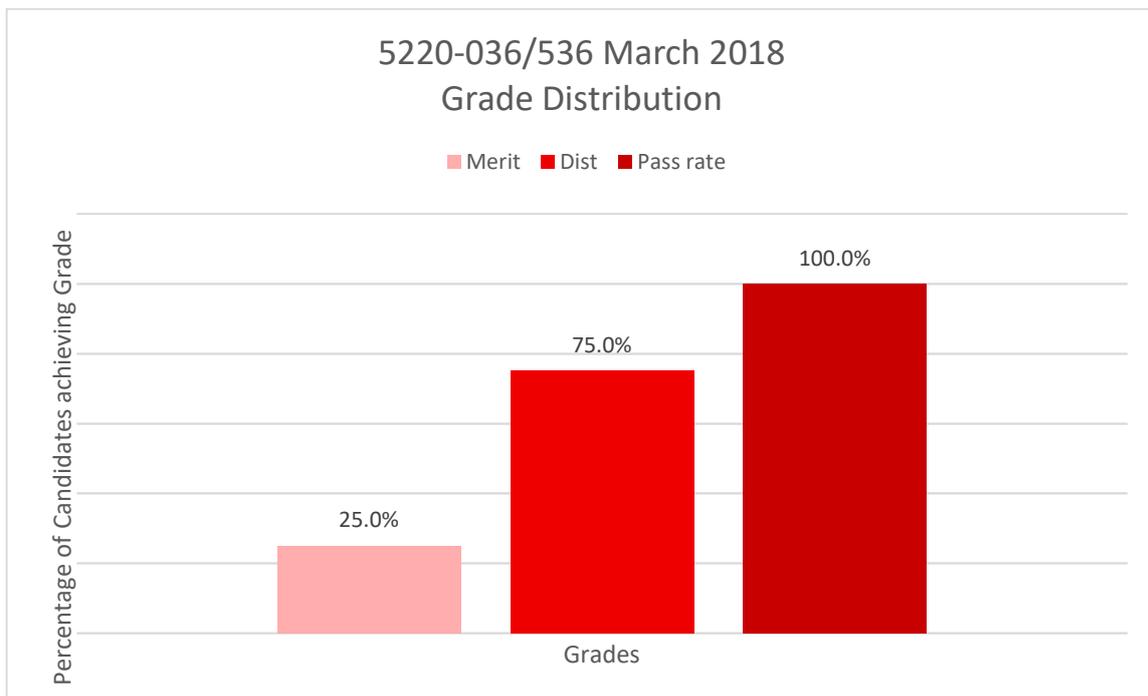
Grade Boundaries

Assessment: 5220-036/536
Series: March/2018 (Spring)

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

Total marks available	80
Pass mark	32
Merit mark	44
Distinction mark	56

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



Assessment: 5220-036/536
Series: June/2018 (Summer)

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

Total marks available	
Pass mark	-
Merit mark	-
Distinction mark	-

There is no grade distribution as no candidates sat the summer series of the theory exam.

Chief Examiner Commentary

5220-036/536 Level 3 Advanced Technical Extended Diploma in Digital Technologies (720) (System Infrastructure) - Theory exam

Series 1 – March 2018

The performance of candidates in this paper was generally very good. The cohort was small and it was apparent that they had been very well prepared for the range of topics covered in the theory exam, and in the skills needed to provide appropriate answers to questions dealing with the different assessment objectives covered.

In questions where candidates were asked to recall knowledge, the candidates provided good answers, except in the area of infrastructure management roles. Their answers were brief and appropriate.

Generally, candidates were able to give good explanations and descriptions, especially in cases where a requirement to explain a topic followed a question asking them to recall facts about that topic. There was some deficit in understanding of authentication methods, and threats caused by the use of 'trap doors', where candidate answers were seen to be weaker.

Responses to extended questions were generally good, with some being very good. This indicated that the centre had put in place provision for teaching candidates how to answer questions as well as what to provide in their answers.

The importance of a candidate's ability to use effective strategies in answering questions in order to achieve good marks in an online examination cannot be overstated. Candidates using effective techniques are able to maximise their opportunities to earn marks through the range and depth of the answers they give.

In extended questions, this technique must be augmented by the use of a useful structure in an answer that is logically structured and clearly uses higher-order thinking skills through effective discussion and analysis.

Series 2 – June 2018

There is no commentary as no candidates sat the summer series of the theory exam.

Synoptic Assignments – Year 1

5220-30 Level 3 Advanced Technical Certificate in Digital Technologies - Pathway 1

Grade Boundaries

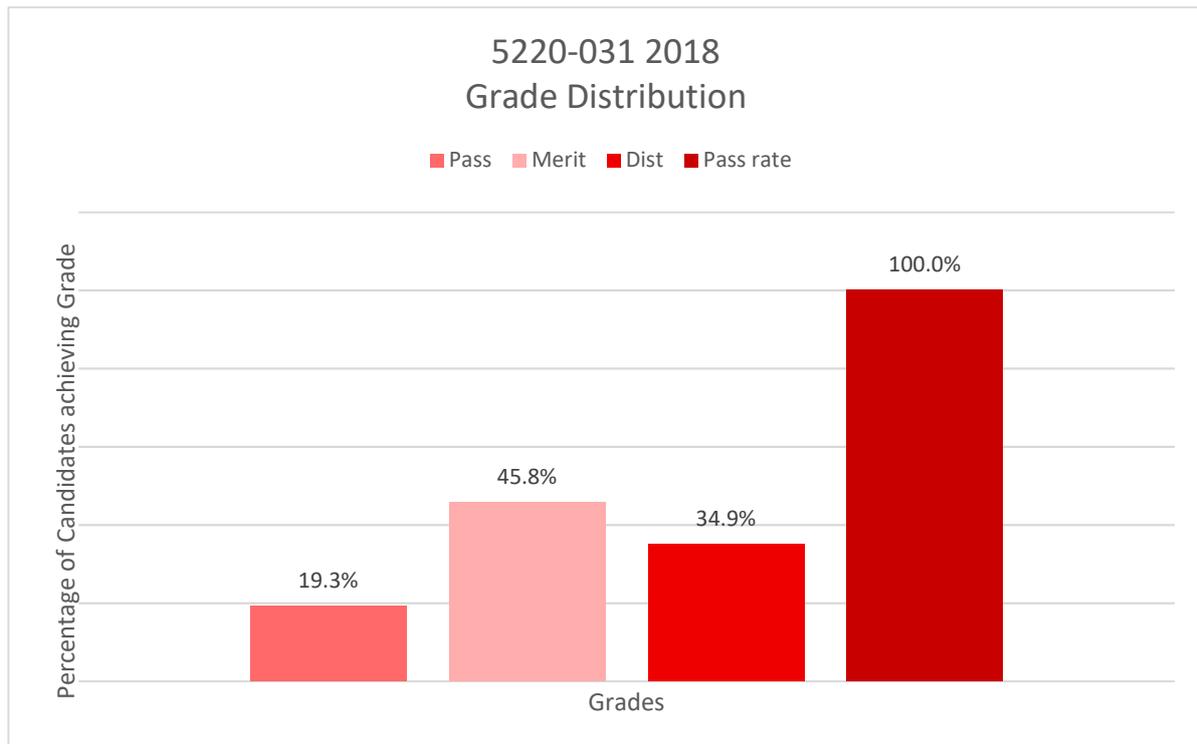
Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel;

Assessment: 5220-031

Series: 2018

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

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



Principal Moderator Commentary

The candidate evidence presented for the assignment was of a high standard in the majority of cases. It was evident that centres had produced appropriate planning structures for the assessment period, allowing the candidates to complete the tasks to an acceptable standard.

In the planning task, some candidates were able to demonstrate a logical, structured approach where the needs of the particular scenario were linked to good programming practices. The candidates who used effective diagrams and images used these to give additional depth to the written answers they produced. In the better responses, the images were effectively discussed in the document, demonstrating high levels of understanding.

The application was developed using different strategies and programming languages. In many cases, the code produced was effective in producing the outcome required but the evidence of the processes being completed was incomplete. Some centres had also provided evidence that was not necessary or evidenced elsewhere.

The assignment gave clear instructions on what evidence should be submitted and care should be taken that this structure is adhered to, and that it provides all the evidence required to support the moderation of the judgements made.

Evidence for practical activities was good where it was supported with good images showing how the processes had been carried out. The use of the Assessor Observation Form was generally good, but care should be taken to make sure that comments are personalised to each candidate's work.

Candidates performed well in the Social Media task, with many providing good data from secondary research. Better responses included original artwork and copy, with mock-ups of artefacts that could be used in an actual campaign for the 'company's' app. However, few candidates provided recommendations that linked back to the research they had conducted.

The review of the processes carried out was varied, with many candidates producing very little work in this task. Candidates should be encouraged to develop the skills required to produce effective responses to this type of task as it has a good potential for the achievement of high marks across several Assessment Objectives.

Overall performance was good and candidates who progress from this qualification to the next level will be well-served by the effective work in this academic year.

Synoptic Assignments – Year 2

5220-32 Level 3 Advanced Technical Extended Diploma in Digital Technologies (720) (Application Development) - Pathway 1

Grade Boundaries

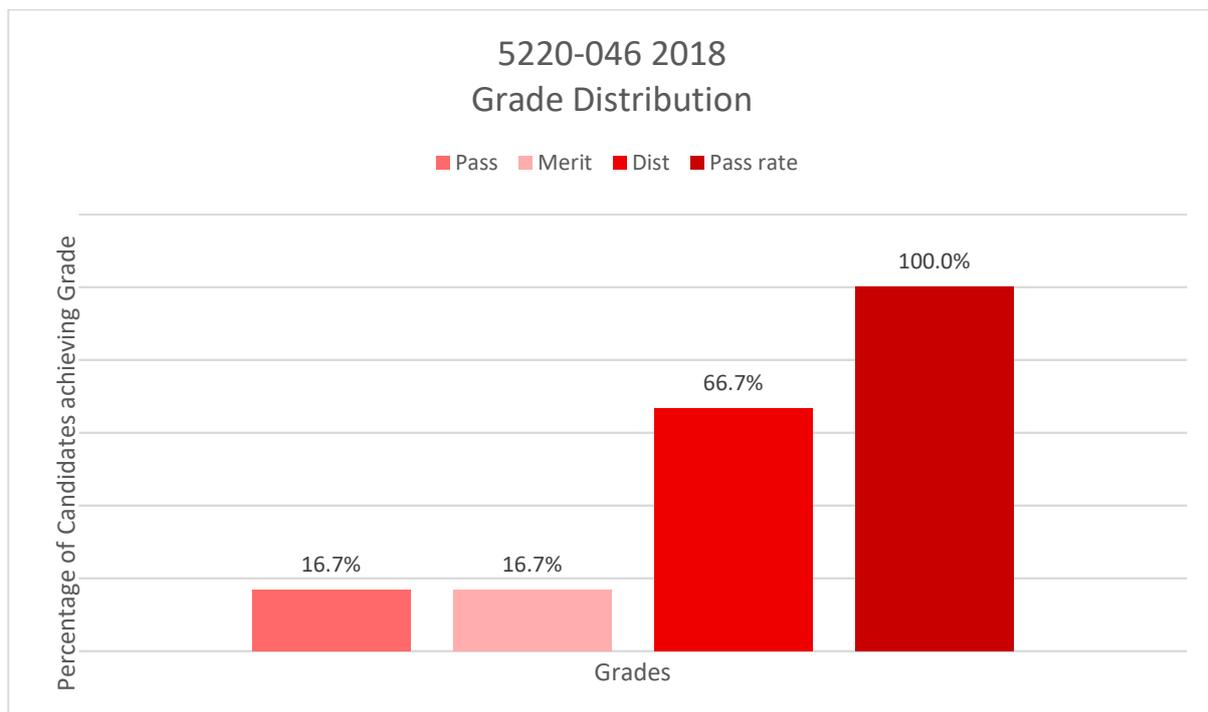
Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel;

Assessment: 5220-046

Series: 2018

Total marks available	60
Pass mark	24
Merit mark	33
Distinction mark	42

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



Principal Moderator Commentary

The tasks set in this assignment were appropriately challenging for the students in the second year of their course. It was clear that many candidates benefitted from their experience in the first year where programming skills were tested.

It was evident that effective centre planning had allowed candidates sufficient time to address the needs of the tasks.

Many candidates produced effective documentation. The planning documentation was well structured and related to the intended development lifecycle, with many candidates nominating an appropriate lifecycle strategy for the required development for the scenario of the assignment. In the better responses, candidates effectively justified their choices.

Good candidates made use of diagrams which illustrated intended algorithm logic and data flow in the proposed application. The candidates who performed well also produced useful test plans for the comprehensive validation of the application's functionality. Some candidates appeared to confuse the items to be included in the test plan with those required in a test log. The quality of the technical documentation was varied but some was of a very high standard indicating changes that had been required where strategy had changed from that proposed in the planning of the application.

The evidence produced for the development processes completed was generally very good, with some candidates providing very detailed screenshots for the steps undertaken. It should be noted that this is a very effective strategy that provides very good justification of marks awarded and allows the candidate to look back at the processes during review stages. Because of the entirely electronic evidence system, candidates should be encouraged to produce more, rather than less, screen shot evidence to show how all the development processes were completed, and how any identified errors were resolved.

Centres used a variety of languages and paradigms for the development processes and the candidates produced useful applications that carried out the processes required by the scenario. The assignment gave clear instructions on what evidence should be submitted and care should be taken that this structure is adhered to, and that it provides all the evidence required to support the moderation of the judgements made. In some cases, candidates had submitted executable files to the portal and centres must not use this strategy to provide any evidence of the candidates' work.

Centres had made very good use of the supporting Assessor Observation Form to support the marking judgements they had made about candidates' work, with good use of personalised commentary. The Candidate Record Form provided useful supporting evidence where it was used to describe the individual candidate's performance.

The support documentation produced was of variable quality and where it was good it was a clearly discriminating factor in overall performance. This task allowed candidates with strong writing skills to gain good marks against a range of Assessment Objectives.

The work produced for the review of the application was generally very good. The writing was often reflective, analytical and relevant. More complete answers were useful

because they allowed the candidate to consider the aspects required to be awarded marks in the higher marking bands. It was clear that many candidates had used a usefully logical approach that considered all aspects of the development lifecycle.

Overall, there was some excellent work produced that would have been entirely appropriate for the standard required in commercial software production.

5220-32 Level 3 Advanced Technical Extended Diploma in Digital Technologies (720) (System Infrastructure) - Pathway 2

Grade Boundaries

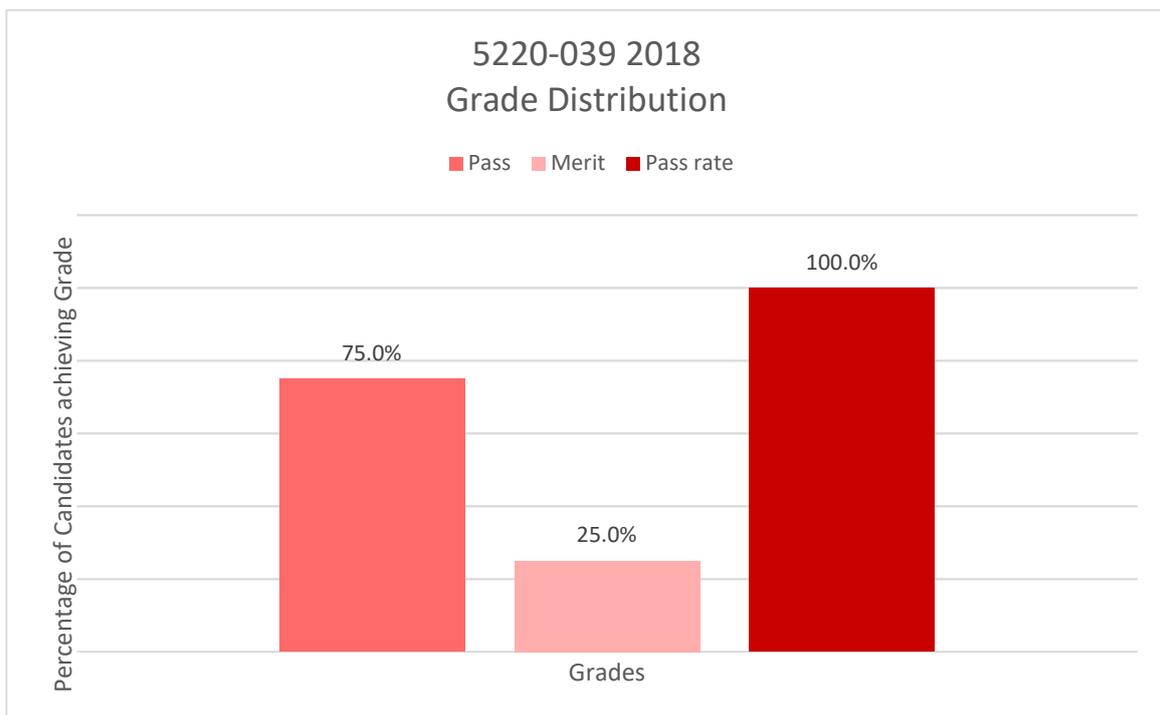
Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel;

Assessment: 5220-039

Series: 2018

Total marks available	80
Pass mark	24
Merit mark	33
Distinction mark	42

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



Principal Moderator Commentary

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. Clearly, candidates submitting work for the units of the second year of their course had benefitted from the work they had done in their first year.

It is essential that centres submit the required range of candidate work to make sure that timely moderation can take place. The centre must always submit the work of the candidates scoring the highest and lowest marks in the cohort and a suitable representative range of marks between these end points.

In some cases, it appeared that candidates had been allowed to adopt their own approach to the creation of the elements of evidence to submit. Some submitted separate documents for each task and others submitted a single document with the report covering all of the tasks. Both approaches were valid, but it seemed that those who submitted a single document achieved higher levels of cohesion in the structure and language used. The quality of language used in the written submissions was high and candidates had taken care in the production of the evidence in the majority of cases.

The use of effective file names is crucial in establishing the order in which tasks were completed. This is especially important where the evidence is representing the completion of a set of processes, rather than the production of an artefact.

The use of photographs, sketches and diagrams was useful, and the candidates referred to them in their text in most cases. The use of headings and section separators allowed the reader to follow the structure easily. For practical tasks, it is important to produce a broad range of evidence to demonstrate what the candidate has done. As the submissions for moderation are entirely electronic, candidates should be encouraged to produce more, rather than less, evidence for the work they have done.

In the better submissions, the candidate had adopted a reflective style and made good use of analysis to consider benefits and limitations, and the relation of these to the scenario in the brief; recommendations made by candidates were highly effective where they were seen. However, some reports produced were very brief and poorly presented.

The candidates displayed very good levels of technical skill and the observation form evidence of their work was personalised and useful. Where candidates had made errors and corrected them, this was recorded by the tutor. It was clear that the centres had made good use of the allowed time in the planning of the tasks to be completed.

The observation forms were used to provide effective confirmation of the completion of the practical tasks which bear significant importance in the qualification. It is important that centres give personalised comments for the candidates' work, rather than use generic statements. This is especially important in an assignment that relies on practical skills for achieving high marks.

The use of the candidate record form was highly effective, and a good depth of commentary was provided. Clear justifications of the marks awarded in each Assessment Objective were given and the evidence suggests that the centre staff had received enough training in the use of the documentation and the evidence portal. The use of this form offers significant support in the justification of the grades awarded.

In general, the candidates displayed a good level of skills in practical and written tasks and the number of candidates achieving the Pass standard or better was very high. Centres should build on the successes in the processes this year by adopting similar approaches in this, and other, qualifications studied by cohorts in future.