

# 8202-20 Level 2 Technical Certificate in Electrical Installation

2019

**Qualification Report**

# Contents

Introduction .....	3
Qualification Grade Distribution.....	4
Theory Exam.....	5
Grade Boundaries.....	5
Chief Examiner Commentary.....	7
Synoptic Assignment.....	9
Grade Boundaries.....	9
Principal Moderator Commentary.....	10

# 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.

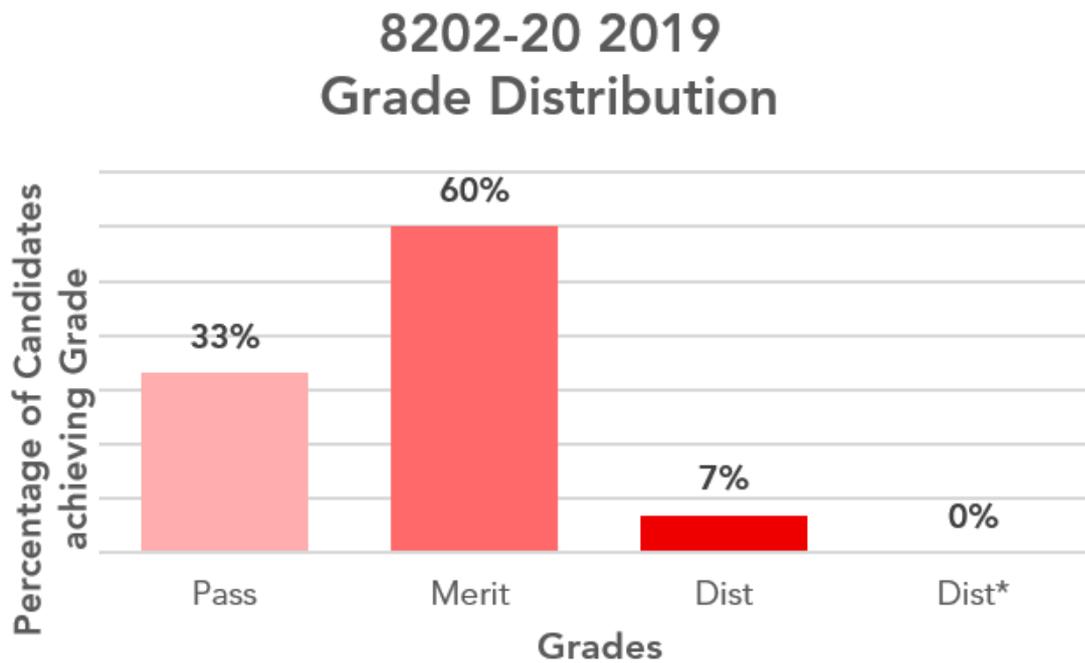
This report provides general commentary on candidate performance in both the synoptic assignment and theory exam. It highlights common themes in relation to the technical aspects explored within the assessment, giving areas of strengths and weakness demonstrated by the cohort of candidates who sat assessments 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:

- 8202-020/520 Level 2 Electrical Installation – Theory Exam
  - April 2019 (Spring)
  - June 2019 (Summer)
- 8202-026 Level 2 Electrical Installation - Synoptic assignment

# Qualification Grade Distribution

The approximate 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.

# Theory Exam

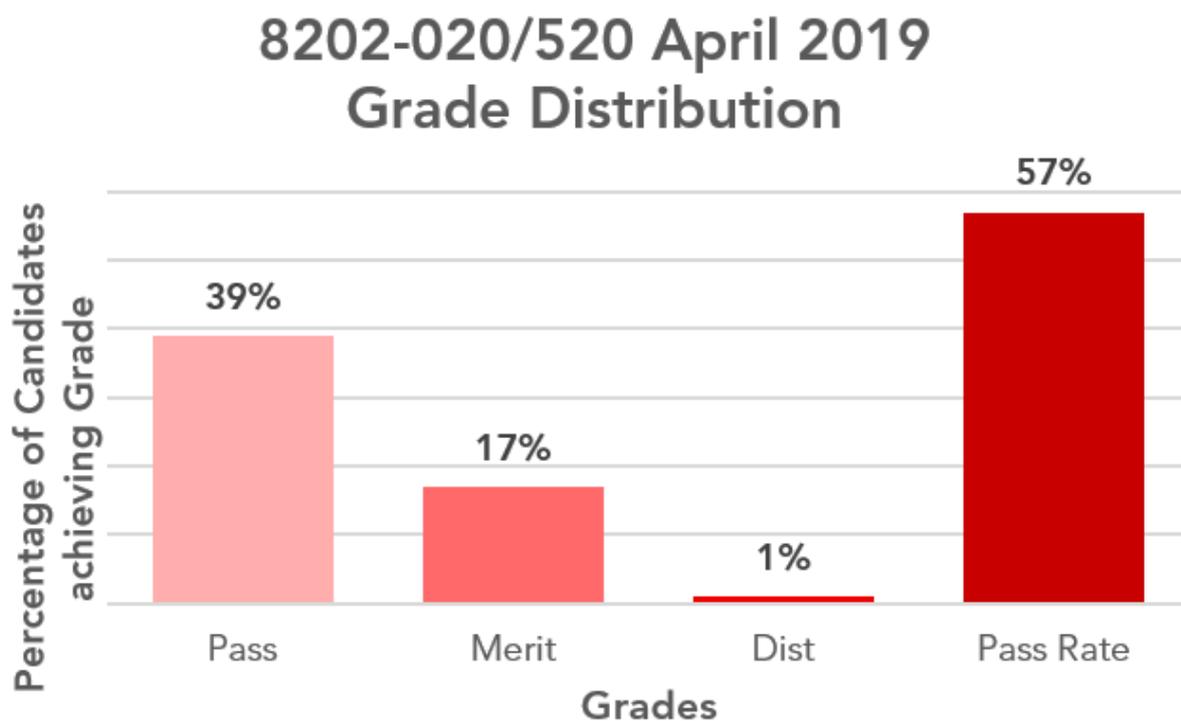
## Grade Boundaries

Assessment: 8202-020/520  
Series: April 2019 (Spring)

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

<b>Total marks available</b>	<b>60</b>
Pass mark	28
Merit mark	36
Distinction mark	45

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

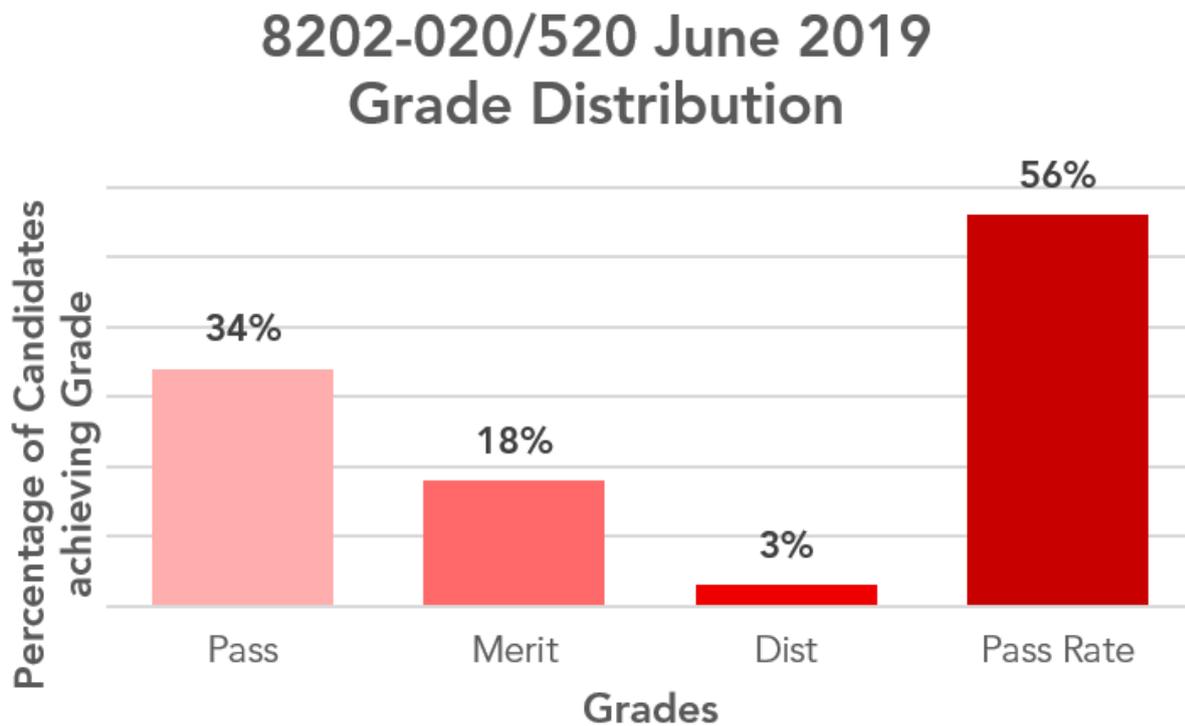


**Assessment: 8202-020/520**  
**Series: June 2019 (Summer)**

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

<b>Total marks available</b>	<b>60</b>
Pass mark	28
Merit mark	36
Distinction mark	45

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



# Chief Examiner Commentary

## 8202-020/520 – Level 2 Electrical Installation – Theory Exam

### Series 1 – April 2019

The examination paper covered a good range of learning outcomes across the whole specification of the qualification. All questions were considered to be technically correct, and suitable for the level, with no errors.

Generally, most candidates demonstrated a good level of recall throughout the examination. When attempting items requiring understanding, areas of weakness included transposition of formula, application of resistivity and properties of a cable, including insulation.

Electromagnetism was an area where high scoring candidates performed well but statistics indicate lower scoring candidates were evenly split across the choice of answers.

A surprising area where poor understanding was demonstrated was conversion of AC to DC; many candidates opted for a component that is more suited for voltage variations on AC circuits, instead of the correct component.

Questions on theory relating to the practical aspects of the installation of wiring systems were quite well answered overall. However, there were questions relating to aspects of knowledge of the correct tools to use for particular tasks, for example, that many candidates were not able to answer correctly.

Areas of understanding linked to the measures used for electric shock protection indicated a poor level of understanding of the basic functions of earthing and bonding. In addition, disconnection times and earthing arrangements were also areas of weakness where many candidates did not answer the questions correctly.

Questions focusing on applied knowledge performed well amongst high scoring candidates, but posed a challenge for many.

Areas of strength overall included question relating to DC circuit theory, wiring systems and supports.

Candidates would be advised to read questions at least twice before answering, to ensure that questions are not answered incorrectly due to misreading, misinterpretation, or not using the full information in the question. To illustrate this point, a question linked to voltage drop was an example where a large proportion of candidates selected the maximum permitted voltage drop instead of the expected voltage drop under full load conditions, although all necessary information was included in the question.

## Series 2 – June 2019

The examination paper covered a good range of learning outcomes over the qualification. All questions were considered to be technically correct, and suitable for the level with no errors. This examination was considered to be equal to the April 2019 series examination in coverage, level and suitability.

Areas of strength across the majority of candidates included use of access equipment, transposition, indices, basic DC circuits, electronic components, use of tools/equipment, fixing methods and applying knowledge of electrical systems using permitted materials.

Areas of weakness amongst the majority of candidates included construction site electrical supply arrangements, trigonometry and volume calculations, properties of cables, features of electrical components and the types of cable connectors.

Areas of weakness amongst lower scoring candidates included sources of electromotive force, transformer principles, drill bits and their uses, transmission systems, intake arrangements and earth fault loop paths.

Candidates must take great care in the following areas:

- Ensure all values within a calculation are at their base SI quantity (e.g. metres not millimetres)
- Read a question fully before attempting to answer, this is to ensure all options have been considered
- Double check calculations using a calculator as a wrong key may be inputted the first time
- Use a keyword to enable research in permitted publications. As an example, if a question requires a specific IP code for bathrooms, research bathrooms not IP codes.

Applied knowledge questions performed well, especially amongst high scoring candidates. Lower scoring candidates found IP codes challenging even though guidance is available in permitted materials. This was also the case for intake arrangements including meter tail sizes.

# Synoptic Assignment

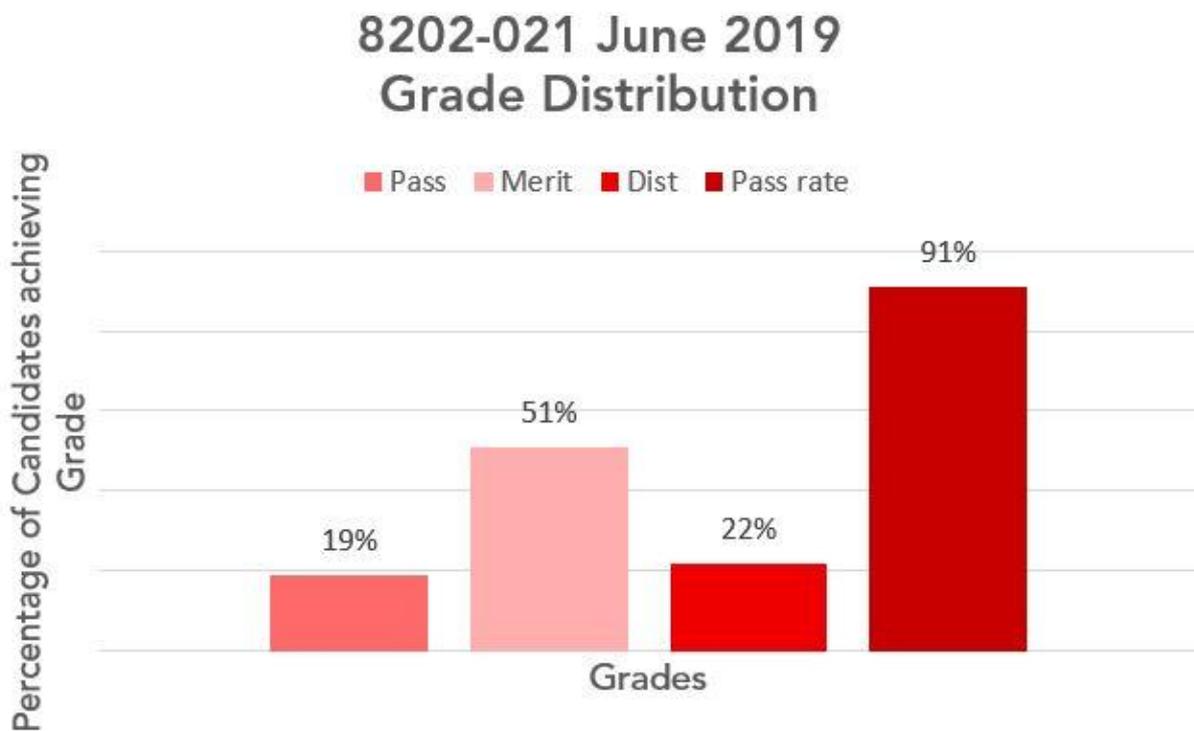
## Grade Boundaries

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

Assessment: 8202-021  
Series: 2019

<b>Total marks available</b>	<b>60</b>
Pass mark	27
Merit mark	38
Distinction mark	49

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



## Principal Moderator Commentary

The synoptic assignment brings together knowledge and understanding as well as skills learnt across the whole of the Level 2 of this qualification.

All centre visits were very beneficial to moderators and centres are thanked for their cooperation as well as the candidates as the pressure a moderation visit can put on them is understood.

Candidates' performance against each AO were as follows:

### **AO1:**

Most candidates demonstrated a good ability to recall information, especially when creating circuit schedules and selecting materials.

### **AO2:**

Candidates who scored well overall demonstrated a good level of understanding when working on design sections of the assessment. Low scoring candidates demonstrated poor levels of understanding and this was evident in the written evidence produced.

### **AO3:**

Some lower ability candidates found the terminating SWA cables challenging including the importance for steel strands to be straight and clean for glanding.

### **AO4:**

Good sources of evidence include areas such as drawing in cables through the conduit; did candidates link understanding of circuits (cables needed) with the actual performance of running in cables.

### **AO5:**

Some candidates attracted high marks but it was clear from other forms of evidence, attention to detail was not present throughout. This included detail of material lists from Task 1, including justification for selection, as well as photographic evidence from Task 4, where cables were not well dressed or made off too short.

Through the moderation process best practice has been identified that centres should incorporate into running their synoptic assignments in 2020:

- Where centres have multiple assessors, standardisation of marking must be carried out.
- It is also recommended where a centre has multiple markers, that collaborative marking takes place where evidence can be shared and marking agreed. Where markers generate their own PO forms and mark from them, it is recommended as good practice for other markers/tutors to challenge marking based on evidence.
- Rather than centres uploading multiple files with names that don't always relate to the content, it would be desirable to have all the evidence in one file or one file for documents and another for photographic evidence. If multiple files were used, please could the filename indicate what the evidence contained is.
- Some centres did not adhere to the photographic evidence requirements and simply took a series of photographs which made the candidate the focus of attention rather than the work being produced or they were not taken at the required intervals for Task 4 meaning progression was not evident. This should be addressed by centres for future assignments, and centres should follow the requirements for photographic evidence.
- Whilst most PO forms contained very good positive feedback on performance, many did not use the 'what could be improved' column. Unless a candidate scores maximum marks, which in itself is extremely rare, there would always be room for improvement.