

Level 3 Technicals in Constructing the Built Environment 6720-054 / 6720-554

part of 6720-37

November 2017 Version 1.1

Guide to the examination

Version and Date	Change Detail	Section
June 2019 v1.1	Amendment to number of resit opportunities	.. Details of the exam

Who is this document for?

This document has been produced for centres who offer **City & Guilds Level 3 Technicals in Constructing the Built Environment**. It gives all of the essential details of the qualification's external assessment (exam) arrangements and has been produced to support the preparation of candidates to take the exam/s.

The document comprises four sections:

1. **Details of the exam.** This section gives details of the structure, length and timing of the exam.
2. **Content assessed by the exam.** This section gives a summary of the content that will be covered in each exam and information of how marks are allocated to the content.
3. **Guidance.** This section gives guidance on the language of the exam, the types of questions included and examples of these, and links to further resources to support teaching and exam preparation.
4. **Further information.** This section lists other sources of information about this qualification and City & Guilds Technical Qualifications.

1. Details of the exam

External assessment

City & Guilds Technical qualifications have been developed to meet national policy changes designed to raise the rigour and robustness of vocational qualifications. These changes are being made to ensure our qualifications can meet the needs of employers and Higher Education. One of these changes is for the qualifications to have an increased emphasis on external assessment. This is why you will see an external exam in each of our Technical qualifications.

An external assessment is an assessment that is set and/or marked by the awarding organisation (ie externally). All City and Guilds Technical qualifications include an externally set and marked exam. This must be taken at the same time by all candidates who are registered on a particular qualification. We produce an exam timetable each year. This specifies the date and time of the exam so you can plan your delivery, revision and room bookings/PC allocation in plenty of time.

The purpose of this exam is to provide assurance that all candidates achieving the qualification have gained sufficient knowledge and understanding from their programme of study and that they can independently recall and draw their knowledge and understanding together in an integrated way. Whilst this may not be new to you, it is essential that your learners are well prepared and that they have time to revise, reflect and prepare for these exams. We have produced a Teaching, Learning, and Assessment guide that is you should refer to alongside the present document ([Teaching, Learning and Assessment Guide](#)). If a learner does not pass the exam at their first attempt, there is only one opportunity to resit the exam, so preparation is essential.

Exam requirements of this qualification

- **Constructing the Built Environment** – Theory Exam (3 hours)

The exam is graded and a candidate must achieve at least a Pass grade in order to be awarded the qualification. (In addition to the exam, a synoptic assignment must also be completed and passed). You can find full details of the synoptic assignment in the *Qualification Handbook* and the *Synoptic Assessment Guide* – please see the link to the qualification page at the end of this document.

When does the exam take place?

The exam is offered on two fixed dates in March or June. The exact dates will be published at the start of the academic year in the *Assessments and Exam Timetable* <http://www.cityandguilds.com/delivering-our-qualifications/exams-and-admin>.

At the start of the programme of study, in order to effectively plan teaching and exam preparation, centres should know when the exam will be taking place and allocate teaching time accordingly. Section 2 of this document gives a summary of the content that needs to be covered in order to prepare learners for the exam and full details of this are given in the Qualification Handbook.

Form of exam

The exam for this qualification can be taken either on paper (6720-554) or online (6720-054).

Can candidates resit the exam?

Candidates who have failed an exam or wish to retake it in an attempt to improve their grade, can do so **twice**. The third and final retake opportunity applies to Level 3 only. The best result will count towards the final qualification. If the candidate fails the exam three times then they will fail the qualification.

How the exam is structured

Each exam has a total of 90 marks and is made up of:

- approximately 20-22 short answer questions
- 1 extended response question.

Short answer questions are used to confirm **breadth of knowledge and understanding**.

The extended response question is to allow candidates to demonstrate **higher level and integrated understanding** through written discussion, analysis and evaluation. This question also ensures the exam can differentiate between those learners who are 'just able' and those who are higher achieving.

More details about and examples of question types are given in Section 3 of this document.

Assessment Objectives

The exams are based on the following set of assessment objectives (AOs). These are designed to allow the candidate's responses to be assessed across the following three categories of performance:

- **Recollection** of knowledge.
- **Understanding** of concepts, theories and processes.
- **Integrated application** of knowledge and understanding.

In full, the assessment objectives covered by the exam for this qualification are:

Assessment objective	Mark allocation (approx %)
<i>The candidate..</i>	
AO1 Recalls knowledge from across the breadth of the qualification	38%
AO2 Demonstrates understanding of concepts, theories and processes from a range of learning outcomes.	42%
AO4 Applies knowledge, understanding and skills from across the breadth of the qualification in an integrated and holistic way to achieve specified purposes.	20%

Booking and taking the exam

All assessments for City & Guilds Technical Exams must be booked through Walled Garden. There is a deadline for booking exams, synoptic assessments and any other centre marked assessments, please refer to the time line to check these dates.

The exam must be taken under the supervision of an invigilator who is responsible for ensuring that it is conducted under controlled conditions. Full details of the conditions under which the exam must be taken can be found in the Joint Council for Qualifications (JCQ) document, [Instructions for Conducting Examinations \(ICE\)](#).

Special consideration

Candidates who are unable to sit the exam owing to temporary injury, illness or other indisposition at the scheduled time may qualify for special consideration. This is a post-examination adjustment that can, in certain circumstances, be made to a candidate's final grade. The Joint Council for Qualifications' guide to the special consideration process can be found at www.jcq.org.uk.

To make a request for special consideration, please contact: policy@cityandguilds.com

Access arrangements

Access arrangements are arrangements that allow candidates with particular requirements, disabilities or temporary illness to take assessments, where appropriate, using their normal way of working. The Joint Council for Qualifications document, *Access Arrangements and Reasonable Adjustments* gives full details and can be downloaded [here](#).

For further information and to apply for access arrangements please see:

[Access arrangements - When and how applications need to be made to City & Guilds](#)
[Applying for access arrangements on the Walled Garden](#)

2. Content assessed by the exam

The exam assesses:

- **Unit 312: Architectural design and planning**
- **Unit 313: Property maintenance and conversion**
- **Unit 314: Building surveying**
- **Unit 316: Building regulations (CT)**

Each exam assesses a sample of the content of these units. This means that a single exam will **not** cover 100% of the unit content. The full range of content will be assessed over a number of examination series. Details of the coverage of a particular exam paper will **not** be released in advance of the exam itself. Centres should **not** make assumptions about what will be assessed by a particular exam based on what has been covered on previous occasions. In order to be fully prepared for the exam, learners **must** be ready to answer questions on **any** of the content outlined below.

The table below provides an overview of how the qualification's Learning Outcomes are covered by each exam and the number of **marks** available per Learning Outcome (ie **not** the number of *questions* per Learning Outcome). In preparing candidates for the exam, we recommend that centres take note of the number of marks allocated to Learning Outcomes and to assign teaching and preparation time accordingly.

In preparing candidates for the exam, centres should refer to the Qualification Handbook which gives full details of each Learning Outcome.

The following is a summary of only that qualification content which is assessed by the exam and **not** a summary of the full content of the qualification.

Unit	Learning outcome	Topics	Number of marks per section
312 Architectural design and planning	Lo1 Understand the roles and responsibilities of the design team	1.1 Roles and responsibilities 1.2 Factors that influence design 1.3 Technical information used in design	20
	LO2 Recognise the factors that influence client requirements	2.1 Client requirements 2.2 Constraints on design 2.3 Environmental issues	

	LO3 Understand the framework within which design and planning operates	3.1 Developmental control 3.2 Statutory framework and planning application procedures 3.3 Environmental protection	
313 Property maintenance and conversion	LO1 Recognise the characteristics of maintenance and conversion	1.1 Property repair and maintenance 1.2 Property conversion and adaptation	20
	LO2 Understand the processes used to maintain the built environment	2.1 Types of maintenance 2.2 Maintenance inspections 2.3 Scale of maintenance and repair work required	
	LO3 Understand the processes used in the conversion of property	3.1 Conversion and adaptation processes 3.2 Legislative requirements for conversion and adaptation 3.3 Preparing documentation to support conversion and adaptation	
314 Building surveying	LO1 Understand the role of the building surveyor	1.1 Role of the building surveyor 1.2 Becoming a building surveyor	8
	LO2 Determine the different types of survey undertaken by a building surveyor	2.1 Types of survey 2.2 Tools and equipment used in building surveys 2.3 Health and safety considerations when performing building surveys	8
316 Building regulations (CT)	LO1 Understand the history and purpose of the Building Regulations	1.1 Historical factors 1.2 Purpose 1.3 Current practice	16

	LO2 Recognise how the Building Regulations apply in practice	2.1 Application of Approved Documents to new build 2.2 Application of Approved Documents to alternations/renovations	
			Total marks for sections: 72 marks
			Integration across units*: 18 marks
			Total marks for exam: 90 Marks

* *Integration across units*. These marks relate to Assessment Objective 4. These marks are awarded to differentiate between levels of performance by candidates taking the exam. The marks are given for how well a candidate has applied their knowledge, understanding and skills from across the units that make up the qualification in an integrated way to meet the requirements of the exam questions.

3. Guidance

Vocabulary of the exam: use of 'command' verbs

The exam questions are written using 'command' verbs. These are used to communicate to the candidate the type of answer required. Candidates should be familiarised with these as part of their exam preparation.

The following guidance has been produced on the main command verbs used in City & Guilds Technicals exams.

A more detailed version of this table, which also includes the command verbs used in the assignments is published in *City & Guilds Technical Qualifications Teaching, Learning and Assessment* guide.

Command verb	Explanation and guidance
Analyse	Study or examine a complex issue, subject, event, etc in detail to explain and interpret, elements, causes, characteristics etc
Calculate	Work out the answer to a problem using mathematical operations
Compare (...and contrast) (or describe the similarities/differences)	Consider and describe the similarities (and differences) between two or more features, systems, ideas, etc
Define	Give the meaning of, technical vocabulary, terms, etc.
Describe	Give a detailed written account of a system, feature, etc (..the effect of...on...) the impact, change that has resulted from a cause, event, etc (..the process..) give the steps, stages, etc
Differentiate between	Establish and relate the characteristic differences between two or more things, concepts, etc
Discuss	Talk/write about a topic in detail, considering the different issues, ideas, opinions related to it
Distinguish between	Recognise and describe the characteristic differences between two things, or make one thing seem different from another
Evaluate	Analyse and describe the success, quality, benefits, value, etc (of an end product, outcome, etc)
Explain	Make (a situation, idea, process, etc) clear or easier to understand by giving details (..how..) Give the stages or steps, etc in a process, including relationships, connections, etc between these and causes and effects.

Give example(s) illustrate/	Use examples or images to support, clarify or demonstrate, an explanation, argument, theory, etc
Give a rationale	Provide a reason/reasons/basis for actions, decisions, beliefs, etc
Identify	Recognise a feature, usually from a document, image, etc and state what it is
Justify	Give reasons for, make a case for, account for, etc decisions, actions, conclusions, etc, in order to demonstrate why they suitable for or correct or meet the particular circumstances, context
Label	Add names or descriptions, indicating their positions, on an image, drawing, diagram, etc
List	Give as many answers, examples, etc as the question indicates (candidates are not required to write in full sentences)
Name	Give the (technical) name of something
Propose	Present a plan, strategy, etc (for consideration, discussion, acceptance, action, etc).
Select	Choose the best, most suitable, etc, by making careful decisions
State	Give the answer, clearly and definitely
Summarise	Give a brief statement of the main points (of something)

Question types

The following explains, and gives examples of, types of questions used in City & Guilds Technical exams. In preparing candidates to take the exam, it is recommended that you familiarise them with the requirements of each question type so that they can be effective and make best use of the time available when sitting the exam.

- An effective candidate will gauge the type and length of response required from the question and the number of marks available (which is given for each question on the exam paper).
- Short answer questions may not require candidates to write in complete sentences. Extended response questions will require a more developed response.
- Candidates should read the exam paper before attempting to answer the questions and should allocate time proportionate to the number of marks available for each question or section.

Question type:	Example question	Mark scheme:
<p>Short answer questions (restricted response) These are questions which require candidates to give a brief and concise written response. The number of marks available will correspond to the number of pieces of information/examples and the length of response required by the question.</p>	<p>Explain how the requirements of the Party Wall etc Act are satisfied on a residential conversion project. (6 marks)</p>	<p>Marks as shown, up to a maximum of six marks.</p> <p>The Party Wall etc Act protects all party walls (1) structures (1) and boundaries (1). If the works on or close to any of these a Party Wall award will be required (1). No work that will impact on the structural stability of an adjacent wall, structure or boundary can be undertaken without notice being served (1). The notice is served by the building owner (1) on the adjoining owner (1) typically by a surveyor. The surveyor for both parties will agree the scope of works, the impact on the wall and issue a Party Wall Award (1). The works can then commence. On completion of the works, the wall/boundary/structure is inspected again and provided there are no issues the works are signed off (1).</p>

Extended response questions

Extended response questions are those that require the candidate to write a longer written response using sentences and paragraphs. These usually require candidates to discuss, explain, etc. a topic in some detail. The question is often based on a short case study, scenario or other prompt. The level of detail should be gauged from the question and the number of marks available.

Example question

A company has purchased a disused, listed, Victorian cotton mill. They intend to convert the mill into luxury flats. The company wants the design to be energy efficient and are keen to promote the interests of disabled people. The local community have expressed concerns about the social impact on the community and the possible economic consequences of the development. The company is preparing the documents needed to obtain planning permission for the development and have already commissioned a building survey of the mill.

Discuss the alterations that need to be made to the mill and the documentation that will be used in the design and planning. (12 marks)

Mark scheme

Internal partitions, suspended ceilings, window replacement, new floors, internal insulation, roof improvement and insulation, illumination, heating and ventilation, modern services, drainage, cold water, access improvements, fire detection and protection; building regulation compliance with Approved Documents L and M (Access) in particular, use of building survey reports to plan work, relevant documents including drawings, specifications, schedules, environmental impacts and so on.

Band 1 (0 – 4 marks)

The learner identifies a limited amount of the alterations to be made and the documentation to be used, but there is little in the way of description. The learner's response lacks detail and is not clearly linked to the scenario.

Example band 1 response

The building will be surveyed by the building surveyor who will look at the condition of the building, the size and shape and the way that it is built. The surveyor will note things like the floor area and floor to ceiling heights and where all the walls are, the location of stairs, types of floor and whether it has electric and water. They will also look at the external walls and the roof to see what they are made of and what the condition is like.

They will then produce a survey report and some as existing plans. The designer will produce new plans for the flats and a specification and maybe a bill of quantities. This will have to comply with the new Building Regulations and will need to consider things like, heat loss, dividing the space up, escape in emergencies, new windows, insulation in the roof and how to move around for disabled people. The designer will have to make sure the new flats

comply with the approved documents of the Building Regulations and get it passed by the building control authority. The new flats will need planning permission too.

Band 2 (5 – 8 marks)

The learner identifies a wide range of the alterations to be made and the documentation to be used and supports this with brief descriptions. The learner's response is detailed but incomplete and has clear links to the scenario in most cases.

Example band 2 response

The building will be surveyed by the building surveyor who will look at the condition of the building, the size and shape and the way that it is built. The surveyor will note things like the floor area and floor to ceiling heights and where all the walls are, the location of stairs, types of floor and whether it has electric and water. They will also look at the external walls and the roof to see what they are made of and what the condition is like.

They will then produce a survey report and some as existing plans. The designer will produce new plans for the flats and a specification and maybe a bill of quantities. They will divide the space up to suit the type of flat they are designing (one bed or two bed etc.) and using the approved documents they will start to produce detailed designs. In a conversion project the important things to consider will be the existing structure and how to make it comply with part L for heat loss. They will need to upgrade the walls, roof space, windows and floors. They will also need to consider the types of heating and how this would work best in an old mill type building.

Another important factor is the use of space and making sure they can design flats for everyone to use. They will use Approved Document M to make sure there is enough space for disabled people to move about freely.

An old building like this will not have modern services, so they will need to sort out gas, water, electric and drainage to make it comply with the building regulations and modern hygiene standards.

Once they have a design the client is happy with they will need to apply for planning permission before they can start. This will need plans, design and access reports and an environmental impact report.

Band 3 (9 – 12 marks)

The learner identifies a comprehensive range of the alterations to be made and the documentation to be used and supports this with in-depth descriptions. The learner's response is detailed and complete and has clear and accurate links to the scenario.

Example band 3 response

The building will be surveyed by the building surveyor who will look at the condition of the building, the size and shape and the way that it is built. The surveyor will note things like the floor area and floor to ceiling heights and where all the walls are, the location of stairs, types of floor and whether it has electric and water. They will also look at the external walls and the roof to see what they are made of and what the condition is like.

They will then produce a survey report and some as existing plans. From this the developer will know the condition, the size and what they need to do. The designer will be able to design the new flats based on the information provided by the surveyor.

The designer will take the information provided by the surveyor and begin to design the new flats. They will produce new plans for the flats and a specification and maybe a bill of quantities. They will divide the space up to suit the type of flat they are designing and using the approved documents

they will start to produce detailed designs. The designer will take into consideration whether the building is listed or in a conservation area and apply this to the new designs.

In a conversion project the important things to consider will be the existing structure and how to make it comply with part L for heat loss. They will need to upgrade the walls, roof space, windows and floors. In a building of this type the walls are most likely solid brick or stone, the roof will be open and have metal or timber trusses and the windows will be metal or wood and single glazed. To insulate the walls, they can dry line inside with insulating plaster board, the roof can have rigid insulation put in between the trusses and the floors which will be concrete can have insulation added and a floating floor laid over this. This will also allow them to put new services through like electric, water and drainage. These will need to be upgraded to suit modern standards. The windows can be replaced with double glazed ones to match. If the building is in a conservation area the windows might need to be repaired and have secondary glazing added.

It is important in conversions to make sure that Approved Document E is considered, and sound is designed for properly. The flats can be separated with stud walls with acoustic insulation and this can have the services running through too. The heating is another important feature for conversions of old buildings. Running heating pipes around the building might be difficult due to the way it is built. This might mean they need individual heating systems in each flat rather than a shared district type system. Gas is not great in flats as it can cause explosions and running the gas pipes on the outside can look ugly. The flat would be best off with an electric heating system, possibly linked to a solar system. Old mills have big roof areas and lots of room for solar or PV panels.

All modern buildings need to be designed for access by disabled people. Approved Document M shows how to comply with this requirement. The designer will need to comply with one of the three categories of design. Category 1 is for visitable dwellings, 2 for accessible and adaptable dwellings and 3 for wheelchair accessible ones. They might need to add lifts and have wider corridors and door ways to make sure it complies.

Another important thing is to design the building so people are safe from fire. Part B of the Building Regulations shows how to design the building safely for fire protection and escape. The designer will need to make sure the travel distances are not too long and that all the escape routes have fire doors and flats do not open straight onto them. A fire alarm and sprinkler system would also be included.

Once the client is happy with the design then planning permission can be applied for. This will need plans, design and access reports and an environmental impact report. In some areas this might be a controversial scheme as designing luxury flats could exclude some people from living there. The client might have to provide some affordable flats in the development to satisfy the requirements of planning. Different planning departments have different rules for how much social housing should be provided for each area.

Examination technique

Candidates with a good understanding of the subject being assessed can often lose marks in exams because they lack experience or confidence in exams or awareness of how to maximise the time available to get the most out of the exam. Here is some suggested guidance for areas that could be covered in advance to help learners improve exam performance.

Before the exam

Although candidates cannot plan the answers they will give in advance, exams for Technical qualifications do follow a common structure and format. In advance of taking the exam, candidates should:

- be familiar with the structure of the exam (ie number and type of questions).
- be aware of the amount of time they have in total to complete the exam.
- have a plan, based on the exam start and finish time for how long to spend on each question/section of the exam.
- be aware of how many marks are available for each question, how much they should expect to write for each question and allow most time for those questions which have the most marks available.

At the start of the exam session

At the start of the exam, candidates:

- should carefully read through the instructions before answering any questions.
- may find it helpful, where possible, to mark or highlight key information such as command words and number of marks available on the question paper.
- identify questions which require an extended written answer and those questions where all or part of the question may be answered by giving bullets, lists etc rather than full sentences.

Answering the questions

Candidates do not have to answer exam questions in any particular order. They may find it helpful to consider, for example:

- tackling first those questions which they find easiest. This should help them get into the 'flow' of the exam and help confidence by building up marks quickly and at the start of the exam.
- tackling the extended answer question at an early stage of the exam to make sure they spend sufficient time on it and do not run out of time at the end of the exam.

Candidates should avoid wasting time by repeating the question either in full or in part in their answer.

Candidates should **always** attempt every question, even questions where they may be less confident about the answer they are giving. Candidates should be discouraged however, from spending too long on any answer they are less sure about and providing answers that are longer and give more detail than should be necessary in the hope of picking up marks. This may mean they have less time to answer questions that they are better prepared to answer.

Extended answer questions

Before writing out in full their answer to extended questions, candidates may find it helpful to identify the key requirements of the question and jot down a brief plan or outline of how they will

answer it. This will help clarify their thinking and make sure that they don't get 'bogged down' or provide too much detail for one part of the question at the expense of others.

Towards the end of the exam

Candidates should always set aside time at the end of the exam to read back through and review what they have written in order to make sure this is legible, makes sense and answers the question in full.

If a candidate finds they are running out of time to finish an answer towards the end of the exam, they should attempt to complete the answer in abbreviated or note form. Provided the content is clear and relevant, examiners will consider such answers and award marks where merited.

Further guidance on preparing candidates to take the exam is given in the City & Guilds publication, [Technical Qualifications, Teaching, Learning and Assessment](#) which can be downloaded free of charge from City & Guilds website.

4. Further information

For further information to support delivery and exam preparation for this qualification, centres should see:

City & Guilds

Qualification homepage: <http://www.cityandguilds.com/qualifications-and-apprenticeships/construction/construction/6720-technical-in-constructing-the-built-environment#tab=information> which includes:

- Qualification handbook
- Synoptic Assignment
- Sample assessments

Technical Qualifications, Resources and Support: www.cityandguilds.com/techbac/technical-qualifications/resources-and-support

Joint Council for Qualifications

Instructions for Conducting Examinations: <http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations>