TQUK Level 3 Certificate in Design Engineer Construct! The Digital Built Environment (RQF)

Purpose Statement

Qualification Number: 603/2052/7

Qualification Purpose Statement

Qualification Regulation Details

<table>
<tr><td>Qualification regulator</td><td colspan="4">This qualification is regulated by Ofqual in England, sits on the Regulated Qualifications Framework (RQF) and is listed on the Register of Regulated Qualifications http://register.ofqual.gov.uk/4. This qualification is currently being submitted for regulation by SQA in Scotland to sit on the Scottish Credit and Qualifications Framework. This qualification is equivalent to Level 4 on the European Qualifications Framework (EQF). Further information about the EQF can be found at: http://ec.europa.eu/eqf/home_en.htm</td></tr>
<tr><td>Qualification type</td><td colspan="4">This qualification is equivalent an AS Level in England and will be equivalent to a Scottish Higher Qualification upon confirmation of regulation in Scotland. It has been submitted to the Department for Education as an Applied General for inclusion in the 16-19 Performance Tables. Applied General qualifications are rigorous advanced (level 3) qualifications that allow 16 to 19-year-old students to develop transferable knowledge and skills. They are for learners who want to continue their education through applied learning. Applied General qualifications allow entry to a range of higher education courses, either by meeting the entry requirements in their own right or by being accepted alongside and adding value to other qualifications at level 3 such as A levels. This qualification has been submitted for approval by the Department for Education as a Level 3 Applied General qualification for inclusion in the 2020 Performance Tables.</td></tr>
<tr><td>Qualification Accreditation Number</td><td colspan="2">603/2052/7</td><td>Qualification registration period</td><td>3 Years</td></tr>
<tr><td>Qualification operational start date</td><td colspan="2">01 September 2016</td><td>Qualification review date</td><td>30 September 2019</td></tr>
<tr><td rowspan="2">Qualification size</td><td>Guided Learning Hours</td><td>180</td><td>Total Qualification Time/Notional Learning</td><td>300</td></tr>
<tr><td>Directed Study Hours</td><td>120</td><td>RQF Credit Value/SCQF Credit Point[1]</td><td>30</td></tr>
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[1] The credit value, where given, for the qualification is determined by TQT in England and Notional Learning Hours in Scotland. One credit corresponds to 10 hours of learning.

Awarding Organisation

The TQUK Level 3 Diploma in Design Engineer Construct! The Digital Built Environment (RQF) is awarded by TQUK. They are a regulated Awarding Organisation recognised by the Office of Qualifications and Examinations Regulation (Ofqual) in England. The purpose of the TQUK Level 3 Diploma in Design Engineer Construct! is to recognise learning at Level 3 relevant to building design, engineering and construction with an emphasis on environmental sustainability.

Qualification Industry Partner

TQUK are committed to ensuring fit for purpose qualifications and work with leading industry experts to secure the requirements of validity. Class Of Your Own Limited are the leading industry experts in education for the digital built environment. This qualification is integral to a suite of qualifications developed from the Design Engineer Construct! ® (DEC) Learning Programmes created by social enterprise Class Of Your Own® Limited (COYO). COYO has licensed the Intellectual Property Rights in the DEC Learning Programme to TQUK, on an exclusive basis for incorporation into the TQUK/COYO Qualifications frameworks, using approaches methods and formats agreed with COYO, for the exclusive purpose of the Parties collaborating in the provision of the TQUK/COYO Qualifications to Centres and learners in the UK.

Qualification Suite

The Design Engineer Construct! The Digital Built Environment suite of qualifications has been developed from the Design Engineer Construct! ® Learning Programme developed by Class Of Your Own Limited to support the Government's 'Building Schools for the Future' school building programme. The purpose of the programme is to develop awareness of the career opportunities for professionals who work behind the scenes in the Architecture, Engineering and Construction ('AEC') industries and bring real world applications to core subjects.

Design Engineer Construct! ® (now commonly known as 'DEC!') has gained a solid reputation as "the most innovative, challenging and relevant secondary school curriculum development in recent years", championed by respected leaders, and referenced in numerous national reports (see Useful Websites and Resources). The suite is progressive and is comprised of the following four qualifications.

- TQUK Level 1 Certificate in Design, Engineer Construct! The Digital Built Environment
- TQUK Level 2 Certificate in Design, Engineer Construct! The Digital Built Environment
- TQUK Level 3 Certificate in Design, Engineer Construct! The Digital Built Environment
- TQUK Level 3 Diploma in Design, Engineer Construct! The Digital Built Environment

The technical awards at Level 1 and 2 give an insight into the industry for 14-16-year old learners. The TQUK Level 3 Certificate in The Digital Design, Engineer Construct! The Digital Built Environmentis designed specifically to be delivered alongside an additional subject with 3 A Levels at lower 6th. The rationale for learners taking the diploma is to enable access to higher education institutes and higher and degree apprenticeships. This qualification is a shorter version of the diploma that requires completion of three out of the six available units and might be more relevant to learners who are working towards complementary A levels but who would still prefer to participate in an applied learning option.

Qualification Overview

The purpose of the TQUK Level 3 Diploma in Design Engineer Construct! is to recognise learning at Level 3 relevant to digital building design, engineering and construction, with an emphasis on social, economic and environmental sustainability. It is suitable for learners who are interested in pursuing technical and professional careers in the Built Environment, providing them with a solid understanding of the people and processes involved in the development and delivery of building projects. The qualifications are accessible to learners in Secondary Schools, University Technical colleges, Further Education Colleges, international schools and other educational institutions.

Qualification Audience

Learners and entry requirements

This qualification is suitable for learners who are interested in pursuing technical and professional careers in the Digital Built Environment, providing them with a solid understanding of the people and processes involved in the development and delivery of building projects. The qualifications are accessible to learners in secondary schools, University Technical Colleges, Further Education Colleges, International Schools and other educational institutions.

There are no specific entry requirements, however, learners should have a minimum of level 2 literacy and numeracy skills. We recommend that learners have achieved a *minimum* GCSE Mathematics grade 5 (C). This qualification is suitable for learners aged 16 years and above.

Learner progression opportunities

This qualification will provide the best possible opportunity for progress into higher education or employment in the Digital Built Environment. It provides entry to a wide range of career pathways, for example in Architecture and Architectural Technology, Geospatial and Property Surveying, Quantity Surveying and Cost Management, Civil, Structural and Building Services Engineering and Construction Project Management. The qualification carries full UCAS points - see https://www.ucas.com. Learners can access higher education courses when taken alongside other appropriate qualifications and can also progress to Advanced and Higher Apprenticeships which feature technical and degree level routes into professional careers.

The government's new apprenticeships offer particularly relevant opportunities, for example in Chartered Surveying, Geospatial Surveying and Digital Engineering.

The qualification complements other subject areas at level 3 and A level, such as mathematics, physics, engineering, computer science, business studies and design technologies to broaden the curriculum. Past students have also combined with art and humanities subject – we recommend consulting with employers and universities for specific progression requirements. Following successful completion of Higher Education study and/or Apprenticeship, learners can progress to Chartered status through an appropriate professional institution (see 'Useful Websites and Resources'). With a range of transferable knowledge and skills, learners can also access wider industry opportunities, for example in the town planning, creative and digital, financial, and legal sectors.

Qualification Objective

The qualification objective is to provide a benefit to learners by preparing learners to progress to a qualification in the Digital Built Environment but at a higher level and which is more specific to a particular role within the industry. This qualification also serves as a benefit to learners as some learners may choose to use this to prepare them for employment in the Digital Built Environment.

The qualification develops the knowledge and skills required to define, develop, deliver and evaluate a digital construction project from concept to handover. It encourages learners to focus on the impact on the end user, the wider community and the environment, setting standards for resource efficiency, and committing to sustainable procurement. Learners will understand the need for accurate technical information regarding the proposed site, and the constraints and challenges a site can present.

Using building information modelling (BIM) methodologies, the project will be developed from concept stage to feasibility and planning, creating a digital model that incorporates main architectural, structural and services detail. Learners will explore the lifecycle of the building focusing on operation and management, maintenance and cost.

The final unit develops learners' ability to evaluate their projects from a range of perspectives, and learners will be required to present their work to stakeholders, making clear judgements on the success of their project, and the lessons they have learned for the future.

Qualification structure

This qualification consists of six mandatory units. Learners must successfully complete all six mandatory units to achieve the qualification. Unit specifications are available upon request from TQUK.

Unit Title	Unit ref.	GL[2]	Directed[3] Study	Unit Credit
Defining a sustainable construction project	A/615/8835	60	40	10
Developing a sustainable construction project	F/615/8836	60	40	10
Investigate design, structural and service aspects of a sustainable construction project	R/616/9176	60	40	10
Total Qualification Time (England) Notional Learning Hours (Scotland)	300			

[2] GL: Guided learning hours under the direct supervision of a teacher.

[3] Directed study is defined as preparation, study or any other self-directed learning and the assessment portfolio.

Qualification Delivery Programme

The qualification is designed to ensure that all learning and assessment is completed within completed within two years. It has been developed from the Design Engineer Construct! ® Learning Programme developed by Class Of Your Own® to support the Government's 'Building Schools for the Future' school building programme. The purpose of the programme is to develop awareness of the career opportunities for professionals who work behind the scenes in the Architecture, Engineering and Construction ('AEC') industries and bring real-world applications to core subjects. The learning programme is designed to encompass all learning outcomes and is designed to be delivered through a combination of innovative theory and practical workshops.

Qualification Assessment Framework

The qualification is assessed by a combination of externally set and internally marked assessments (40%) subject to external quality assurance and an externally set and externally marked examination (60%).

The externally set and marked exams will take place on a date published in advance by TQUK. The Exam serves as the synoptic element of the assessment in accordance with DfE requirements.

The externally set and internally marked assessment will take the form of a portfolio and be assessed standardised internally by the recognised centre and externally moderated by TQUK. Dates for submission of work for standardisation and moderation will be published alongside dates for the exams. The portfolio will assess learners across all learning outcomes contained within the units of assessment as indicated in the unit tables contained within the qualification specification.

Learners will be required to sit the exam in conditions as set out in the TQUK Exam and Invigilation Procedure in the TQUK Centre Handbook.

The qualification is graded with grades A*/A/B/C/D/E

Qualification support

Industry Bodies	
The qualification is formally supported by the following industry bodies; leaders in the Built Environment sector and represent some of the UK's most respected companies. These include:	Mott MacDonald Topcon Positioning Systems Laing O'Rourke Gardiner & Theobold Willmott Dixon Arup Happold Foundation BAM Balfour Beatty ICES Seddon The Survey Association
Professional Bodies and Specialist Organisations	
The qualification is formally supported by professional bodies and specialist organisations including:	• Royal Institution of Chartered Surveyors • Chartered Institute of Building • Chartered Institution of Civil Engineering Surveyors • UK BIM Alliance
Further and Higher Educational Establishments	
The qualification has specific support from the following universities:	• Heriot Watt University • London South Bank University • University of Westminster • Salford University