

General Enquiries

Tel: 0300 300 0090

Email: enquiries@stockport.tscg.ac.uk Website:
stockport.tscg.ac.uk



BTEC HNC in Building Services Engineering For England (Heating, Ventilation and Air Conditioning)

Location	Stockport College
Course Type	University Level
Department	Building Services
Start Date	Monday 14th September 2026
Duration	Part-time, 2 Years
Time	-
Fee	£ 4000.00
Course Code	SPQ-HC4H-1500

Course Overview

Building services engineering focuses on the design, installation and maintenance of essential systems within buildings, of which HVAC systems form a crucial part. This includes the design of systems that provide heating, cooling and ventilation to maintain a healthy and comfortable environment and the creation of energy-efficient and sustainable buildings.

This Level 4 Higher Technical Qualification (HTQ) introduces construction and different building services engineering functions, as well as developing a range of transferable and subject-specific skills. You will be able to perform key building services engineering tasks and understand processes and operations, to work effectively. This qualification is aligned to the Building Services Engineering Senior Technician Occupational Standard.

Course Requirements

Whilst applications are considered on an individual basis, they are usually based on a requirement to have 64 UCAS points from either:

A level 3 vocational qualification, GCE A levels or an Access to Higher Education Diploma

GCSE English Language and Maths at grade C/4 or above.

Mature students with relevant experience and/or professional qualifications are welcome to apply and may be invited to interview.

What You Will Learn

You will develop an awareness of the design process and be able to produce design propositions and a construction information package for a project. You will be able to prepare pre-design information and present a design proposal for a non-domestic heating, ventilation and air conditioning installation, as well as analyse heating and cooling loads. Focusing on the principles of public health engineering, you will be able to calculate, design and select appropriate pipework systems and plantroom equipment for water services, sanitation and rainwater systems for large commercial buildings. Students will be able to manage the people and processes of a building site comprising different trades, ensuring quality and safety on site. An understanding of scientific principles and mathematical concepts necessary to design and specify building services plant and equipment, will be developed. You will explore heat transfer, fluid flow, acoustics electrical networks and control systems.

The development and impact of the construction industry will be explored, as well as the routes to employment and progression. Your knowledge and understanding of the mathematical principles and theories that underpin construction technology, structures and materials will be developed. This will involve the use of analytical and computational methods to solve engineering construction problems, the interpretation of data and application of statistical and calculus techniques. Building Information Modelling, the process of information management through a project life cycle, is explored and will involve the generation of 2D and 3D views of a building model.

Assessment

Students are continuously assessed using a variety of methods including preparation of reports, delivery of presentations, demonstration of skills in practical workshops and through experiments, portfolios and the collation of evidence.

Progression

On completion, you may progress to Level 5 HND and from there, to a Level 6 top up such as:

BSc (Hons) in Building Services Engineering

- BSc (Hons) in Building Services
- BSc (Hons) in Heating, Ventilation and Air Condition

Career Options

On completion, you may consider roles such as:

HVAC Design Engineer

Building Services Engineer

Energy Manager

Facilities Manager

Maintenance technician

Project Engineer

Building Services Site Technician

Mandatory Units

At level 4 you will study:

Construction Design Project

The Construction Environment

Digital Applications for Building Information Modelling

Mathematics for Construction

Principles of Heating, Ventilation and Air Conditioning

Principles of Public Health Engineering

Site Supervision and Operations

Scientific Principles for Building Services

Extra Costs Involved

No.

Exam Validation Body

Pearson Education Ltd.

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Hours Per Week

6 hours for part-time course or 12 hours for full-time course.

How Long To Complete

Two years part-time with one full day attendance per week, or one year full-time with two full day attendance per week.

Programme Structure

Each unit is worth 15 credits and over the course of the programme you will gain 120 credits

Contact Details

For further information please email HEenquiries@tcg.ac.uk

Disclaimer

Although every care has been taken to ensure that the information contained within this document is accurate, there may be changes to this programme and provision. We will endeavour to keep prospective and current students updated where appropriate and when the information becomes available.