

# (Hong Kong) Continuous Professional Education Centre (香港)持續專業教育 · 培訓中心

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## **Pearson BTEC Level 5 HND in Construction and the Built Environment (Surveying)**

### **Individual Project**

The aim of this unit is to support students in using and applying the knowledge and skills they have developed through other areas of their studies to complete and present an individual project. In addition, this unit will provide students with key study skills that will support them in further study.

### **Construction Technology**

This unit will explain the terminology used in construction technology, describe the different techniques used to construct a range of substructures and superstructures, including their function, design selection criteria, identify the different types of civil engineering/infrastructure technology used in support of buildings, illustrate the supply and distribution of a range of building services and how they are accommodated within the building and understand and application of innovative approaches and technology in a real life.

### **Science & Materials**

This unit aims to support students to make material choices to achieve the desired outcomes of a brief. This is approached from the perspective of materials being fit for purpose; as defined by testing standards and properties, but also by consideration of the environmental impact and sustainability. Awareness of health & safety is considered alongside the need to meet legislative requirements.

### **Construction Practice & Management**

The unit compares and investigates small, medium and large construction companies within the market place and how construction processes, for development, have evolved.

### **Legal & Statutory Responsibilities**

This unit will introduce the different areas of law that are relevant to the construction industry throughout the development process. This includes applying for planning approval to undertake construction activities and using building control regulations to evaluate building design and alterations at the preconstruction stage. The unit will explore the laws of occupiers' liability, trespass and nuisance to manage construction activities on-site, and the legal aspects of the sale and leasing process involved in the

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disposal of buildings; using the law of contract and land law.

## **Measurement & Estimating**

The overall aim of this unit is to provide students with an understanding of the quantity surveying techniques of measurement and the estimation of rates for the compilation of tender information. This is a vital activity in achieving a successful outcome for a contracting company in tendering and winning work.

## **Financial Management & Business Practice in Construction**

This unit introduces the concepts of business management and financial control. Students will examine a range of factors that influence the ways in which companies grow, raise finance and control their costs and resources. Topics included in this unit are: the legal status of building companies and how this impacts on raising finance, the different sources of finance and how a company manages them, contemporary management strategies, and how the day-to-day management of the different resources used by a construction company impact on their success.

## **Tender & Procurement**

The aim of this unit is to define what constitutes a tender and the information required for this process, explain the procedures and contractual arrangements for procurement (contract formation, breach of contract, torts and remedy), analyse the factors that affect the selection of construction procurement methods and documentation, calculate an estimate for a work (including time, cost, quality and associated matters) and financial appraisal on construction projects and related economics issues.

## **Group Project**

Content in this unit will typically include role identification and allocation, collaborative structures, human resources management, project management, procurement, tender documentation, information/data sharing, meetings, health & safety, project costing and Building Information Modelling.

## **Contracts & Management**

The overall aim of this unit is to provide students with a working knowledge of contracts, so they can manage a project team in accordance with the agreed terms and conditions of the contract. The principle person responsible for this is often the quantity surveyor and it is their responsibility to ensure compliance with the conditions of the contract.

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## **Advanced Quantities for Complex Project**

This unit has been designed to enable students studying construction, civil engineering and building services engineering to apply, analyse and measure a range of components and elements found in large-scale buildings or structures, and to produce quantities within the function of a quantity surveyor.

## **Surveying for Conservation, Renovation and Refurbishment**

This unit is to examine an existing building to determine its character, investigate methods of building construction and building pathology including common defects and remedies, assess mechanisms of failure and deterioration in historic buildings and produce a building survey report in support of a proposed conservation, renovation or refurbishment scheme.

## **Alternative Methods of Construction**

On successful completion of this unit students will have examined how the construction industry impacts on the environment; explored alternative construction methods which are fit for purpose; government policy implications and health & safety constraints associated with alternative construction methods; and designed a fit-for-purpose structure using an alternative construction method.

## **Maintenance & Operations**

The aim of this unit is to discuss the different industry sectors involved in maintenance, specific material elements and materials used in the maintenance of buildings, compare the different types of maintenance management available and how they interrelate, demonstrate how CAD and Building Information Modelling assists in managing maintenance and operations effectively and efficiently including application in facilities management in different stages and assess how maintenance and operations are managed as part of a wider business management strategy and application of the standard specification and different techniques.

## **Advanced Materials**

The aim of this unit is to evaluate the characteristic properties which contribute to the mechanical functionality of materials, examine failure mechanisms of different materials through intrinsic and extrinsic methods, present a case study exploring innovative and smart materials and their role in building construction and sustainable

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construction and analyse material selection and design strategies in either a structural or civil engineering environment including related legislation and sustainability.