

Pearson BTEC Level 3 Diploma in Construction and the Built Environment (Building Services Engineering)



屋宇設備工程英國國家文憑

Course Code: HL3015

BTEC Centre no. 75879

香港設施工程學院及英才尖端教育中心，本著培育英才，造福社會的辦學理念，在努力辦學的同時，亦積極不懈地為學生尋找升學的途徑。經過不斷的努力及洽商，終於獲得香港理工大學、嶺南大學的肯定及接受，本校 BTEC 的畢業生，成績優異者，可獲報讀相關大學的學位、深造文憑、碩士學位等課程的機會。

同時，成功完成我校 BTEC Level 6 的畢業生，如擁有相關認可的碩士學位及工作經驗，可報考英國註冊工程師 CEng、CIOB 等學會的專業資格。

Pearson BTEC 簡介

英國愛德思 (Pearson) 國家職業學歷與學術考試機構，是英國規模最大的學歷與職業資格頒證機構之一。Pearson 是由英國主要職業資格考試機構「商業與技術教育委員會“BTEC”」和倫敦大學考試與評估委員會(ULEAS)合併而成。Pearson 的所有課程都由英國教育與技能部“DfEs”和英國教學大綱與學歷管理委員會“QCA”共同監管。Pearson 跟政府機構、學術機構及企業緊密合作，Pearson BTEC Level 3 Diploma 超過全球獲 100 個國家的學府認可。

課程簡介

- ◆ 屋宇設備工程課程內容由英國愛德思國家職業學歷與學術考試機構(BTEC)提供，並結合本港實際工程界的需要，由香港設施工程學院(HKCE)主辦的晚間兼讀制課程。
- ◆ 此課程給予學員廣泛而全面的知識，為學生建立良好的學術基礎。
- ◆ 以學生為主的互動式教學，讓學生通過完成與職業相關的課程，學以致用，注重應用操作、團隊合作、案例分析、實踐創新。除專業及關鍵技能外，重視職業通用技能的培訓。
- ◆ 摒棄傳統考試的學習評估模式，每學科以習作成績作為評核標準，令學員能輕鬆學習。

證書頒發

- ◆ 學員需在指定時間內成功完成指定 12 科，並且所有功課合格，將獲得由英國愛德思國家職業學歷與學術考試機構(BTEC)頒發國際認可英國國家文憑 (Diploma)。
- ◆ 成功取得 Pearson BTEC Level 3 Diploma 之學員，可自行向香港學術及職業資歷評審局 (評審局)，取得本港認可的資格。

升學前景

- ◆ 畢業生符合資格報讀海外或本地大學，如理工大學，嶺南大學，城市大學等 (取錄與否視乎學生學歷，報讀學科或大學決定)。學生或可銜接 Pearson BTEC 英國國家高級證書 (HNC) 或英國國家高級文憑 (HND)
- ◆ 可獲本學院介紹或自行在本地或海外升學。

入學條件

標準入學條件：

- ◆ 中五畢業 (F.5); 或
- ◆ 中學文憑試畢業 (DSE); 或
- ◆ 證書 (Certificate)

非標準入學條件(須年滿 21 歲)：

- ◆ 中三畢業並有最少 3 年工作經驗及面試; 或
- ◆ 有關 5 年工作經驗及面試

(本學院可視乎情況決定是否取錄未符合「標準入學條件」的學生。)

申請豁免條款 (一經報名, 恕不接受任何豁免申請)

- ◆ 學員請於報讀時, 提供有關學歷文件, 獲豁免科目必須與 BTEC 課程內容相吻合, 唯香港設施工程學院擁有最終豁免及解釋權。為確保豁免科目符合 BTEC 要求, 學員需跟從指示提供相關的學術文件及成績, 以供本學院審核及評分。豁免審核費每科 **HK\$1,000 (成功與否均不設退還)**, 學員同時須遞交成功豁免科目的 Assignment。

課程大綱

B3C01 Health, Safety and Welfare in Construction and the Built Environment

B3C02 Sustainable Construction

B3C03 Mathematics in Construction and the Built Environment

B3C04 Science and Materials in Construction and the Built Environment

B3C32 Building Services Control Systems

B3C33 Building Services Science

B3C35 Ventilation and Air Conditioning in Building Services Engineering

B3C37 Refrigeration Technology in Building Services Engineering

B3C38 Plumbing Technology in Building Services Engineering

B3C39 Electrical Principles in Building Services Engineering

B3C40 Electrical Installation Standards and Components in Building Services Engineering

B3C41 Electrical Installation Design in Building Services Engineering

Course Content

- B3C01 Health, Safety and Welfare in Construction and the Built Environment**
Know the responsibilities of employers and employees under current health, safety and welfare legislation. Know how to undertake risk assessments using appropriate principles and formats. Understand the control measures used to reduce risk and meet legal requirements. Know their own role in accident recording and reporting procedures.
- B3C02 Sustainable Construction**
Know the important features of the natural environment that need to be protected. Understand how the activities of the construction and built environment sector impact on the natural environment. Understand how the natural environment can be protected against the activities of the construction and built environment sector. Understand sustainable construction techniques that are fit for purpose.
- B3C03 Mathematics in Construction and the Built Environment**
Be able to use basic underpinning mathematical techniques and methods to manipulate and/or solve formulae, equations and algebraic expressions. Be able to select and apply mathematical techniques correctly to solve practical construction problems involving perimeters, areas and volumes. Be able to select and apply geometric and trigonometric techniques correctly to solve practical construction problems. Be able to select and apply graphical and statistical techniques correctly to solve practical construction problems.
- B3C04 Science and Materials in Construction and the Built Environment**
Know the basic factors that affect human comfort. Understand how forces act on structures. Know the performance criteria applicable to construction materials and the techniques used to produce such materials. Understand construction materials and the techniques used to prevent their deterioration.
- B3C32 Building Services Control Systems**
Know the purpose of building services control systems and the functions they perform. Understand the principles associated with building services control systems. Know the operational characteristics of control components and devices. Be able to develop appropriate control strategies, schemes and schematic drawings for building services systems.
- B3C33 Building Services Science**
Understand the nature of energy in solids, liquids and gases, and the fundamental principles of heat transfer in building services applications. Understand the principles of electricity and combustion as they apply to the provision of electrical power, natural gas and other fossil fuel energy systems. Understand the thermodynamic properties of solids, liquids and gases as they apply to changes of state in heating, air conditioning and refrigeration installations. Understand the principles of psychrometry as they apply to air conditioning systems.
- B3C35 Ventilation and Air Conditioning in Building Services Engineering**
Be able to establish ventilation, warm air heating and air conditioning requirements for buildings. Understand the operational characteristics of ventilation and air conditioning equipment, plant and materials. Be able to design ventilation, warm air heating and simple single zone air conditioning installations. Be able to size, select and specify ventilation and air conditioning

systems, ductwork, plant and equipment.

- B3C37 Refrigeration Technology in Building Services Engineering
Understand the principles that underpin basic refrigeration processes. Understand the properties and uses of different types of refrigeration systems. Be able to create project design proposals for selecting appropriate refrigeration technology. Understand the technical and operational requirements of safe, energy efficient system installation. Know the current legislation, British Standards, regulations and codes of practice applicable to safe refrigeration processes.
- B3C38 Plumbing Technology in Building Services Engineering
Know how cold water is sourced, cleansed to the required standard and distributed to the consumer. Be able to design hot and cold water systems for installation in low-rise buildings. Understand the design and installation of above ground drainage systems. Understand the design and characteristics of gas installations.
- B3C39 Electrical Principles in Building Services Engineering
Be able to apply appropriate procedures to determine quantities associated with electricity. Be able to use the principles of electricity and the behaviour of simple electrical components for different applications. Be able to solve problems relating to the use of single-phase and three-phase AC circuits and produce simple circuit designs to given specifications. Be able to apply the principles of transformers and rotating machines to demonstrate their practical applications.
- B3C40 Electrical Installation Standards and Components in Building Services Engineering
Know the regulations and legislation applicable to electrical installations. Know the different wiring techniques used in electrical installations. Understand earthing and bonding principles. Understand the need for final circuits and circuit protection. Understand the requirements for special installations.
- B3C41 Electrical Installation Design in Building Services Engineering
Know how to design electrical lighting and power requirements for buildings. Be able to design electrical lighting and power installations for specific applications. Know how to establish the data distribution, security and fire protection system requirements. Be able to design data distribution, security and fire protection installations for specific applications.

授課詳情

- 授課語言：粵語教授輔以英文講義
- 課程師資：所有講師皆為註冊工程師(CEng & RPE)或註冊設施經理或同等學歷，或持有大學學位及最少 5 年實際工作經驗。
- 單元：12 單元
- 課程長度：12 個月
- 授課時間：(晚間制) 7 : 00 – 9 : 30pm/ 7:30 – 10:00 pm
- 開課日期：每月開新班

評分標準：

本課程學習成績以習作為主要審核標準，
學員無需應付考試!

學費

請致電學院查詢: BTEC LEVEL 3 專線 3165 8168 或電郵: enquiry@tdpedu.org

其他費用

- ◆ 報名費 : HK\$500 (包括學生證費用)
- ◆ BTEC 學生會員註冊費 : HK\$2,400
- ◆ SHKIFE 會員每年年費 : HK\$200 (學員可自行選擇申請與否)
(所有費用於遞交報名表時一同繳交,不設退還)

報名詳情

請帶備報名費 HK\$500 元正連同以下文件一併交回本學院:

- 已填妥的報名表
- 履歷表
- 畢業證書
- 公司推薦書(如有)

BTEC LEVEL 3 查詢專:3165 8168

查詢熱線 : 2687 1208

電郵地址 : enquiry@tdpedu.org

學院網址 : <http://www.hkceedu.org>



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