

Pearson BTEC Level 5 Higher National Diploma in Building Services Engineering (Heating, Ventilation & Air Conditioning)

Registration Number / Course Code: 252267 / 012P

It is a matter of discretion for individual employers to recognize any qualifications to which this course may lead.

個別僱主可酌情決定是否承認本課程可令學員獲取的任何資格

英國國家高級文憑 (屋宇設備-冷暖系統工程)

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 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 HND 在全球獲 120 個國家的大學認可。

課程簡介

- ◆ 屋宇設備 – 冷暖系統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，是結合本港實際工程界的需要，並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，學員可自行報讀英國或海外大學的學位課程。
- ◆ 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。

課程首席講師



Dr Irwin P Kwan

BSc(Engg), DBA, CEng, EurIng,

CDCFOM, FCIBSE, FHKIFE, FIDCE

RPE (BS, ME, FE, BE) & REA, MHKIE

關博士是香港設施工程學院的榮譽校長，並一直致力於教育及培訓學員。由 1992 他一直希望透過創立本學院，以培植年青工程師達致機械、電機、建築及土木等各方面的設施工程專業水準。

證書頒發

- ◆ 學員需在指定時間內成功完成指定 16 科，所有功課經 BTEC 審核合格，並已通過校內英文考試合格 (英文資格如有 IELTS 5.5 或 CEFR 或 PTE 51 或相同資格; 或本校的校內英文試，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高級文憑 (Higher National Diploma)。

課程認受性

- ◆ 成功取得 BTEC HND 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, 申請者而需要符合評審局其他要求。
- ◆ 為根據《非本地高等及專業教育(規管)條例》(第 493 章)在香港註冊或獲豁免註冊的非本地課程進行評審, 以確保這些由非本地院校開辦的課程及其頒授的資歷符合一定水平。通過評審的非本地課程會如其他本地課程一樣享有相同的評審地位, 並獲香港資歷架構認可。
- ◆ Pearson BTEC HND 在全球獲 120 個國家的大學認可, 本學院介紹或自行報讀海外大學。
- ◆ 成功取得 BTEC HND 之學員, 可申請英國一些相關學會, 成為副會員 (須符合相關要求)

入學條件

標準入學條件	非標準入學條件(需年滿 21 歲)
◆ 中七畢業 (F.7); 或 ◆ 中學文憑試畢業 (DSE); 或 ◆ 持有基礎文憑 (OD/PD); 或 ◆ 持有英國國家高級證書/專業證書(HNC/HC); ◆ 英文要求 1. IELTS 5.5 分或以上 or 2. HKDSE Level 3 or 3. HKCEE Level D or 4. A Level Grade E or 如不能符合以上英文要求, 需要在申請畢業前完成本校舉辦的英文班並通過考試。	◆ 中五畢業並有最少 5 年有關工作經驗及面試; 或 ◆ 毅進課程畢業並有最少 3 年有關工作經驗及面試; 或 ◆ 有關 10 年工作經驗及面試 ◆ 英文要求 1. IELTS 5.5 分或以上 or 2. HKDSE Level 3 or 3. HKCEE Level D or 4. A Level Grade E or 如不能符合以上英文要求, 需要在申請畢業前完成本校舉辦的英文班並通過考試。

學費 (全期學費分 4-8 期繳交, 每期可選擇修讀 1-5 個單元)

- ◆ 基本學費 : 每單元 HK\$4800
- ◆ 優惠學費 : 請致電到學院查詢

其他費用

- ◆ 報名費 : HK\$500
- ◆ 筆記影印費 : 每科 HK\$300 (學生可自由選擇)
- ◆ BTEC 註冊費 : 三年註冊費 HK\$5,600
- ◆ 英語備試班及考試 : HK\$2,800
- ◆ 因個人原因需要將期票延期或退票, 要收取行政費 HK\$300

申請豁免條款 (一經報名, 恕不接受任何豁免申請)

- ◆ 申請獲豁免科目必須與 BTEC 課程內容相吻合, 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、成績、申請豁免科目的 Assignment, 以供本學院審核並由 BTEC 最終審核。審核費每科 HK\$1,000 (成功與否均不設退還)。

授課詳情

- ◆ 授課語言 : 以粵語教授, 英文輔助・英文講義
- ◆ 課程師資 : 講師為註冊工程師(HKIS、RICS、CEng and RPE);
或註冊設施經理或擁有碩士學歷及教育經驗; 或持有大學學位及相關工作經驗。
- ◆ 單元 : 16 單元
- ◆ 筆記 : 僅提供電子筆記
- ◆ 授課時間 : 7:00pm - 10:00pm
- ◆ 開課日期 : 每年的 3 月、6 月、9 月、12 月
- ◆ 截止報名 : 課程開課前兩星期 (詳情請向職員查詢)

課程內容 Course Content

P5E01 - Construction Design Project

Discuss the stages of a design process and the types of information required to communicate, share and manage the project process. Explain the different types of construction information developed through the course of a project. Produce design propositions that address project requirements defined through feasibility stages. Present a construction information package, highlighting the coordination of information between different project stakeholders to ensure accuracy.

P5E02 - Construction Technology

Explain the terminology used in construction technology; describe the different techniques used to construct a range of substructures and superstructures, including their function and design selection criteria. Discuss different methods of dealing with site conditions to support building and infrastructure construction. Illustrate the supply and distribution of a range of building services and how they are accommodated within the building.

P5E04 - The Construction Environment

Explore the development of the construction industry through the roles and relationships of the professionals involved. Assess the impact of the construction industry; discuss the ways in which the construction industry ensures quality, timely completion and safety. Examine the routes to employment and progression within the construction industry.

P5E06 - Digital Applications for Construction Information

Discuss the key types of construction information that may be produced in support of construction projects. Demonstrate the use of project standards and their setup in digital applications. Generate construction information for a given project using industry-standard digital applications. Present a package of construction information, including drawings, schedules and specifications for a given construction project.

P5E08 - Mathematics for Construction

Use analytical and computational methods to solve construction-related problems; investigate applications of statistical techniques to interpret, organize and present data by using appropriate computer software packages. Illustrate the wide-ranging uses of calculus within different construction disciplines by solving problems of differential and integral calculus. Use mathematical methods to solve vector analysis, arithmetic progression and dimensional analysis problems.

P5E09 - Principles of Heating, Ventilation and Air Conditioning

The buildings we use in everyday life – to work, study, socialise and live in – can be increasingly complex in their design, as well as being subject to more stringent environmental targets for emissions. The heating, ventilation and air conditioning systems in buildings play a major role in maintaining the comfort of the occupants and managing environmental impact.

P5E15 - Principles of Alternative Energy

Examine the different contexts that inform discussions on environmental sustainability; discuss types of alternative energy systems and how they support sustainability. Explain the factors that inform the selection of a renewable energy system in relation to a specific installation. Present a strategy for a cost-effective upgrade to an existing building, utilising an appropriate form of alternative energy.

P5E22 - Scientific Principles for Building Services

Calculate energy transfer rates in different building services contexts; evaluate conditions of static and dynamic fluid flow to determine energy loss. Design electrical circuits for single-phase AC networks; determine the effects of sound and vibration related to building services and human comfort.

P5E28 - Group Project (Pearson-set)

Assess individual and group skills to allocate roles within a collaborative team; plan a construction project, based on the Pearson-set theme, in collaboration with others to ensure good practice in resource management, staffing and project scheduling. Prepare tender documentation, undertaking work appropriate to a defined role within a team; evaluate own work, and the work of others, in a collaborative team.

P5E30 - Project Management

Discuss the theory and practice of project management and the context of the profession; explain the roles, relationships and management of stakeholders in a construction project. Describe the activities of a project manager through the different phases of a construction project; present a project management strategy for a given construction project.

P5E32 - Advanced Construction Drawing & Detailing

Explore the methods to ensure consistent development and management of construction information; examine the relationship between CAD & BIM data in the production and management of construction information. Discuss the types of information required throughout the lifecycle of a construction project; prepare an information package for a given construction project.

P5E34 - Further Mathematics for Construction

Apply instances of number theory in practical construction situations; solve systems of linear equations relevant to construction applications using matrix methods. Approximate solutions of contextualized examples with graphical and numerical methods; review models of construction systems using ordinary differential equations.

P5E37 - Advanced Heating, Ventilation and Air conditioning Design & Installation

Modern high-rise and multi-zone buildings have complex requirements for heating, cooling and ventilation. Their scale, number of occupants and need for better performance and efficiency, mean that the design and installation of systems for heating, cooling and ventilation are critical.

P5E39 - Personal Professional Development

Assess personal learning needs and opportunities in the context of employment. Plan and manage own personal learning journey, through consultation with employer and/or tutor/instructor. Record personal progress and the feedback of others; responding as appropriate to own future development. Evaluate own learning, based on personal experience and comments from others, in order to plan for the future.

P5E48 - Thermofluids and Acoustics

The study of thermofluids is critical to the design, specification and operation of building services engineering systems. In this unit, students will explore the key features of thermofluids, heat transfer, thermodynamics, fluid mechanics and combustion, and their calculation and application. Understanding how to calculate and manage heat transfer will give students key knowledge that will enable them to work on a range of different systems for heating and refrigeration.

P5E50 - Building Management Systems

Discuss the technologies and applications used in building management systems; assess how a building energy management system (BEMS) can optimise cost and energy usage. Evaluate the potential benefits in cost and sustainability through the use of BMS and BEMS technologies. Specify a building management system suitable for a small multi-zone, non-residential building.

報名時需提供:

- 已填妥的報名表, 報名費 500 元, 及首期學費, 及期票
- 身份證
- 履歷表
- 畢業證書
- 工作經驗證明

報名及付款方法

☐ 報名時請備EPS, 現金或劃線支票(信用咭暫不接受)

☐ 如以劃線支票, 請在支票上註明收款人

TD Professional Education Group LTD.”

If pay by crossed cheque, please specify the payee to be

TD Professional Education Group LTD.”

郵寄地址:香港設施工程學院, **九龍旺角廣東道982號, 嘉富商業中心15樓**

☐ 轉數: 將學費直接存入銀行戶口, 連同銀行收據及填妥之報名表格WhatsApp至: 65286900。

尖端教育集團有限公司: 東亞銀行 **514-40-55818-4**

尖端教育集團有限公司: 滙豐銀行 **124-422288-001**

轉數快認識碼: **102669215**

Or deposit the payment to our Bank A/C:

TD Professional Education Group Ltd: East Asia Bank A/C: **514-40-55818-4**

TD Professional Education Group Ltd: HSBC: **124-422288-001**

and WhatsApp us the bank receipt accompany your application form at 65286900.

FPS Code: 102669215

☐ 或連同報名表格及學費親臨本學院繳交。

(Or submit the application form with the course fee in person)

☐ 或支付寶:

- 首先開啟支付寶『掃一掃』
- 再掃描二維碼及輸入金額
- 交易完成



注意事項

1. 香港設施工程學院已實施個人資料 (私隱) 政策, 有關資料單張可於報名處索閱, 或閣下可與本學院個人資料管理主任查詢。
2. 香港設施工程學院保留在任何情況下及以任何原因拒絕任何入學申請的權利。申請者繳付學費後, 仍須符合入學的所有條件, 其申請方可獲得接納。
3. 香港設施工程學院保留在任何情況下更改課程內容、授課地點、日期及時間的權利。
4. 如申請退學, 學生需於本課程開始前最少5個工作日以書面通知退學, 否則已繳學費概不退還。申請者申請退還學費需繳交手續費HK\$300。

查詢熱線 : 3165 8069
電郵地址 : enquiry@tdpedu.org;

WhatsApp : 65286900
學院網址 : <http://www.tdpedu.org>