Pearson BTEC Level 5 HND in Construction and the Built Environment (QCF)
建築學高級文憑 (Reg. No.: 252254)

1. **Design Principles & Application for Construction & the Built Environment**
   This module enables learners to develop their ability to evaluate the planning and design phases and consider the environmental impact of construction. Learners will explore the roles and legal responsibilities of all parties involved in construction project

2. **Science & Materials for Construction & the Built Environment**
   This module introduces scientific principles relevant to the study of construction and the built environment and provides learners with a fundamental understanding of the properties and use of construction materials.

3. **Applied Mathematics for Construction & the Built Environment**
   This module provides learner with an understanding of analytical techniques and the mathematical skills needed to solve construction and engineering problems. This module has been designed to enable learners to use mathematical processes to solve construction, civil engineering and building services engineering problems.

4. **Management Principles & Application for Construction & the Built Environment**
   This module introduces learners to the principles and application of management as theyrelate to the technical and professional disciplines of construction, civil engineering and building services engineering. Learners will gain an understanding of how these principles may be applied to the management of construction, building services engineering or civil engineering activities through the application of recognized management techniques.

5. **Group Project in the Construction Industry**
   This module will develop learner's skills in terms of the evaluation and resolution of realistic practical problems and the ability to work as part of a team. This module also enables the application of knowledge, understanding and skills developed in other units, and where possible experiences from work, to a major piece of work.

6. **Health, Safety & Welfare for Construction & the Built Environment**
   On completion ofthis module, learners will understand current health, safety and welfare legislation applicable to the construction and built environment sector. Learners will understand how to identify and record hazards, assess risks and select appropriate control measures to prevent or mitigate ill health and injuries on site.

7. **Technology for Complex Building**
   This module focuses on the erection of complex multi-storey buildings and the use of modern systems to provide flexible internal space planning and design. These

themes are developed to include how the useful life of buildings can be extended by alteration and repair techniques. The principles of buildability in terms of health and safety, efficiency, economy and quality of construction projects are analysed.

8. **Law & Contract for Construction & the Built Environment**
This module will enable learners to develop an understanding of the national legal system, the Law of Contract and the liabilities and responsibilities of each party to a contract. Learners will also develop a working knowledge of the legal principles, procedures and requirements relating to the different types of contract used when undertaking national or international construction or civil engineering projects.

9. **Contractual Procedures & Procurement for Construction & the Built Environment**
This module develops a working knowledge of the nature and purpose of the legal requirements and procurement arrangements used in the construction and built environment sector. Learners will also gain knowledge of the parties and organisations involved in construction projects and how current issues and best practice are applied to the procurement of contracts.

10. **Economics for Construction and the Built Environment**
This module provides learners with an understanding of how the economic environment affects the construction and built environment sector. This module has been designed to enable learners to examine, analyse and discuss the implications of economic theories on the construction and built environment sector.

11. **Production Management for Construction**
This module provides learners with an understanding of the application of management principles, such as effective communication methods, control and reporting techniques. Learners will gain skills in cost forecasting and creating planning and programming charts for construction projects.

12. **Measuring, Tendering & Estimating for Construction & the Built Environment**
The principles and techniques of estimating form an integral part of the tender process. The identification and selection of contractors and the available methodology are contrasted in terms of their appropriateness for construction procurement. Learners will gain an understanding of the contract documentation required for the tender process along with the constraints on a tender both in the pre-stages and post-stages of procurement.

13. **Project Management for Construction & the Built Environment**
This module enables learners to demonstrate their understanding of project management and the role of project managers. Learners will have the opportunity to understand how the client's objectives affected the project and how these objectives cab be achieved through successful project management.

14. **Properties & Performance of Construction Materials**
This module investigates the physical and chemical mechanisms that underpin the properties of common structural materials. It focuses on how and why materials

fail and how such failures can be avoided or prevented. Learners will analyse the properties and performance of modern composite materials in terms of their relevance to construction and the built environment.

15. Construction Methods and Design Solutions

This module provides learners with an opportunity to explore current practices and issues in construction and gain an understanding of the modern methods of construction. This will enable learners to develop skills in research and analyse to support the design process.

16. Specification and Contract Documentation for Construction

This module introduces learners to the application of contract documents within the construction and built environment sector. This module has been designed to provide learners with the opportunity to demonstrate their knowledge and understanding of the production of contract documents, and the skills needed to apply their effects and outcomes to all stages of construction projects.

Pearson BTEC Level 4 HNC Diploma in Construction and the Built Environment (QCF) 建築學高級證書 (Reg. No.: 252603)

1. **Design Principles & Application for Construction & the Built Environment**
   This module enables learners to develop their ability to evaluate the planning and design phases and consider the environmental impact of construction. Learners will explore the roles and legal responsibilities of all parties involved in construction project

2. **Science & Materials for Construction & the Built Environment**
   This module introduces scientific principles relevant to the study of construction and the built environment and provides learners with a fundamental understanding of the properties and use of construction materials.

3. **Applied Mathematics for Construction & the Built Environment**
   This module provides learner with an understanding of analytical techniques and the mathematical skills needed to solve construction and engineering problems. This module has been designed to enable learners to use mathematical processes to solve construction, civil engineering and building services engineering problems.

4. **Management Principles & Application for Construction & the Built Environment**
   This module introduces learners to the principles and application of management as theyrelate to the technical and professional disciplines of construction, civil engineering and building services engineering. Learners will gain an understanding of how these principles may be applied to the management of construction, building services engineering or civil engineering activities through the application of recognized management techniques.

5. **Group Project in the Construction Industry**
   This module will develop learner's skills in terms of the evaluation and resolution of realistic practical problems and the ability to work as part of a team. This module also enables the application of knowledge, understanding and skills developed in other units, and where possible experiences from work, to a major piece of work.

6. **Health, Safety & Welfare for Construction & the Built Environment**
   On completion ofthis module, learners will understand current health, safety and welfare legislation applicable to the construction and built environment sector. Learners will understand how to identify and record hazards, assess risks and select appropriate control measures to prevent or mitigate ill health and injuries on site.

7. **Production Management for Construction**
   This module provides learners with an understanding of the application of management principles, such as effective communication methods, control and

reporting techniques. Learners will gain skills in cost forecasting and creating planning and programming charts for construction projects.

8. **Measuring, Tendering & Estimating for Construction & the Built Environment**
The principles and techniques of estimating form an integral part of the tender process. The identification and selection of contractors and the available methodology are contrasted in terms of their appropriateness for construction procurement. Learners will gain an understanding of the contract documentation required for the tender process along with the constraints on a tender both in the pre-stages and post-stages of procurement.