

HND in Construction

Programme Specification

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Awarding Body:	Edexcel (BTEC)
Teaching Institution:	South and City College Birmingham
Final Award:	Edexcel BTEC Level 5 HND in Construction
Programme Title:	HND in Construction and the Built Environment
Mode of Study:	Full time
Language of Study:	English
UCAS Code:	S20 002K

Introduction

The HND in Construction and the Built Environment is a 2 years full time course which aims to prepare and equip students with knowledge and skills when working within the Construction Industry. The Edexcel BTEC Higher National Diploma (HND) is a highly regarded, nationally and internationally recognised, undergraduate level programme, equivalent to the first year of a university degree course. The course is Level 5 on the National Qualifications Framework and has been designed to equip you with knowledge, understanding and skills for employment in such fields as management within the Construction Industry.

The qualification provides a thorough grounding in the key concepts and practical skills required in their sector and their national recognition by employers allows progression direct into employment. BTEC Higher Nationals offer a strong emphasis on practical skills development alongside the development of requisite knowledge and understanding in their sector. Learners are attracted to this strong vocational programme of study that meets their individual progression needs whether this is into employment or to further study on degree or professional courses.

Aims of the Programme

The HND Construction and the Built Environment aims to:

- Provide education and training for a range of careers in the construction sector
- Provide opportunities for full time learners to gain a nationally recognised vocationally specific qualification to enter employment in the construction sector or progress to higher education vocational qualifications such as a full-time degree in construction.
- Develop the knowledge, understanding and skills of learners in the field of construction
- Provide opportunities for learners to focus on the development of higher level skills in an construction context
- Providing opportunities for learners to develop a range of skills, techniques and attributes essential for successful performance in working life.
- Provide education and training to improve the skills and effectiveness of the construction workforce and a common core of training for all those who work within construction.
- Develop a range of skills and techniques, personal qualities and attributes essential for successful performance in working life and thereby enabling learners to make an immediate contribution to employment
- Develop construction practitioners with new and enhanced skills to fulfil new roles and responsibilities in the construction industry.
- Provide opportunities to address skills gaps and shortages, notably in leadership, quality assurance and management, which are of increasing and crucial importance in the early years sector
- Provide a programme with a nationally recognised vocationally specific qualification which confers to holders of the qualification qualified practitioner status

Relationship to Subject Benchmark Statements and other Relevant External Reference points

The programme has been developed by Edexcel with reference to the National Occupational Standards in Construction Management at level 5. The programme also provides an opportunity to gain some of the underpinning knowledge and understanding for Level 5 NVQ in Construction Management some of the contextualised underpinning knowledge for NVQ units in Management at level 4.

Higher level skills and abilities

Edexcel Learners will be expected to develop the following skills during the programme of study:

- Analysing, synthesising and summarising information critically
- The ability to read and use appropriate literature with a full and critical understanding
- The ability to think independently and solve problems
- Obtaining and integrating several lines of subject-specific evidence to formulate and test hypotheses
- Applying subject knowledge and understanding to address familiar and unfamiliar problems
- Appreciating the need for ethical standards and professional codes of conduct; reflecting on practice and continuing development

- An appreciation of interdisciplinary approaches to construction practice to meet the needs of construction managers of emerging roles and responsibilities across settings, projects and services
- Leadership and management within multi disciplinary teams and enhanced interagency working
- Designing, planning, conducting and reporting on construction research
- The capacity to give a clear and accurate account of a subject, marshal arguments in a mature way and engage in debate and dialogue both with specialists and non-specialists.

Programme Structure

To achieve the qualification of HND Construction and the Built Environment learners will study 16 modules. This is subject to module combination rules and requirements as stipulated by Edexcel. Learners must pass all 16 modules and comply with the professional practice requirements to be awarded the qualification.

The programme is provided over two years on a full time basis, typically this is from September until June and will require attendance at College for 3 day per week, it is expected that full time learners will not be employed.

Modules are designated as H1 or H2, to achieve the HND learners must study at least 16 modules.

The programme consists of 6 core modules:

Unit number

		Level	Credits	ECTS*
1	Design Principles and Application for Construction	4	15	7.5
2	Science & Materials for Construction	4	15	7.5
5	Group Project in Construction	5	20	10
6	Health, Safety and Welfare in Construction	4	15	7.5
3	Applied Mathematics for construction	4	15	7.5
4	Management Principles in Construction	5	15	7.5

In addition to the Core modules learners must study 10 specialist modules, examples of which are:

17	Project Management for Construction	4	15	7.5
8	Construction and Maintenance of Buildings	4	15	7.5
13	Environmental Impact	4	15	7.5
14	Economics	5	15	10
11	Technology and Complex Buildings	5	15	10
16	Measuring Tendering and estimating	4	15	10
19	Building Control procedures	5	15	10
25	Design Technology	5	15	10
60	Personal and Professional Development	5	15	10
62	Research project	5	15	20

* ECTS = European credit transfer system

At level 4 the emphasis is on the application of knowledge, skills and understanding, use of conventions in the field of study, use of analytical skills and selection and organisation of information.

At level 5 the emphasis is on application and evaluation of contrasting ideas, principles, theories and

practices, greater specialisation in the field of study, and an increasing independence in systematic enquiry and analysis.

Intended Learning Outcomes

The programmes intended learning outcomes are identified in each module in detail, however generally the programmes learning outcomes include fundamental concepts, principles and theories appropriate to the working with children and families settings.

The Intended Learning Outcomes for the Mandatory/Core curriculum are:

Design Principles: Learners will explore the roles and legal responsibilities of all parties involved in construction projects. Learners will also gain an understanding of how emerging technologies affect the design and production phases of construction projects.

Science and Materials: designed to enable learners studying construction, civil engineering and/or building services engineering programmes to explore scientific principles and the behaviour of materials used in the construction and built environment sector.

Group Project in Construction: This unit is designed to bring together small groups of learners into teams so that they can coordinate their individual skills and abilities. The scheme of work should give individual learners an opportunity to take responsibility for their contribution to the outcome, and demonstrate their ability to work as part of a team.

Health and Safety: On completion of this unit, learners will understand current health, safety and welfare legislation applicable to the construction and built environment sector.

Applied Mathematics: Application of analytical techniques needed to successfully complete the core and specialist content, to include algebra, graphical techniques, laws of motion, matrices, trigonometry, calculus, statistics and probability, surveying and setting out procedures and construction/engineering problems.

Environmental Impact: This unit investigates the potential threats to the environment posed by the construction and built environment sector. It evaluates the technical and legal processes and procedures used to eliminate or minimise the environmental impact and achieve sustainable construction.

Construction & Maintenance: This unit has been designed to enable learners studying construction-related programmes to understand and compare the standard design forms, site investigation and evaluation methods used in construction and the built environment.

Health and safety: concepts and regulatory framework; risk management strategies; implementation of strategies; promoting better working environment; impact assessment.

Management Principles: This unit introduces learners to the principles and application of management as they relate to the technical and professional disciplines of construction, civil engineering and building services engineering.

Project Management for Construction: principles and application of effective site management; effective communication, the use of ICT and the essentials of planning and resource management; cost forecasting, control and reporting techniques; planning and programming of construction projects and

the design of systems for production control; implications of quality and environmental considerations during the production process.

Measuring Tendering & Estimating application of the tendering procedures; principles and techniques of estimating as an integral part of the tender process; methods of pricing to formulate an estimate for construction projects; commercial awareness for estimates of construction operations; information required to produce a tender; use of SMM and CESMM; evaluation of different tendering procedures and contractual arrangements.

Technology & Complex Building: range of materials and constructional forms available for the erection of multi-storey buildings; range of systems currently used to provide flexibility of internal layouts to meet design requirements; features of 'buildability' in terms of safety, efficiency, economy and quality standards; development of sustainable construction' strategies;

Building Control Procedures: principles of the building control system and the primary legislation; origins of statutory regulations and controls in England and Wales; enforcement of legislation regarding building control regulations; interpretation and application of the various statutory controls and regulations for construction works.

Design Technology: specification of materials, systems and methods used to realise a design solution and achieve quality in design graphical communication techniques; how construction materials fail in use and preventative and remedial measures; concepts of 'buildability' and 'sustainability' to address current environmental issues confronting the construction and built environment sector.

Economics: methods of allocation of scarce resources and the determination of price within the construction and built environment sector; factors affecting the economics of an organisation; size and economic significance of the work carried out by different sectors within construction and the built environment; government economic activity and how it affects the construction and built environment sector.

Personal and Professional Development

This unit aims to help the learner become an effective and confident self-directed employee. This helps the learner become confident in managing own personal and professional skills to achieve personal and career goals.

Research Project

To develop learners' skills of independent enquiry and critical analysis by undertaking a sustained research investigation of direct relevance to their Higher Education programme and professional development.

Criteria for Admission to the Programme

Learners must be aged 18 years on or before 31st August of the academic year that the programme commences.

A minimum of 120 UCAS points which may be gained from the following qualifications:

2 x GCE 'A' Level passes

1 x GCE 'A' Level pass plus AS level passes in appropriate subjects

BTEC National Diploma or Extended Diploma

BTEC National Certificate

A Level 3 Diploma or equivalent such as NVQ, GNVQ, International Baccalaureate, Scottish Certificate of Education

A recognised (Kite marked) Access Course

Other relevant international qualifications

It is recognised that some learners may have significant relevant work experience or other professional qualifications and therefore may be admitted to the programme following a successful interview.

Teaching and Learning

A range of teaching and learning methods will be used during the programme which aims to be culturally inclusive and meet the needs of individual learners. Teaching and learning may include:

- Lectures
- Tutorial support groups
- Practical classroom based activities
- Group and individual presentations
- Group projects
- Co-operative group work
- Independent learning/self directed study
- Work place investigations
- Online learning materials
- Work placements

It is recognised that learners learn in a variety of ways and the teaching and learning on the programme will take account of these different needs.

Support for Learning

Students are encouraged to identify and, with guidance, to reflect on their own learning needs and are offered support as appropriate to those needs.

Where specific learning needs are identified (e.g. Where a disability is declared,) the course team will liaise with Student Services to ensure that the requirements of the statement are met.

Students are encouraged to identify and, with guidance, to reflect on their own learning needs and are offered the following support as appropriate to meet those needs:

- A course induction programme
- Induction to learning resources
- Group project briefing sessions for students embarking upon project work, followed by regular meetings with supervisors at which progress is monitored.
- Individual tutorials
- Learning agreements
- Online resources (Moodle)
- Study skills support
- Student Handbook with information relating to the course, modules, assessment and support
- Access to college resources such as IT facilities and the Library.
- Access to Student Services, including those offered by the careers service, financial; advisers and counselling service

Assessment

A variety of assessment methods will be used on the programme. These are designed to enable learners

to meet the learning outcomes for the module and experience a range of methods in preparation for further study or employment. A sample are provided below, (this is not an exhaustive list)

- Written examinations
- Coursework assignments
- Individual and group-based project work
- Practical investigations
- Group and individual presentations
- Work experience log books
- Reflective accounts
- Portfolios

Modules generally have a maximum of two assessments, for example a presentation and a written piece of course work.

Grading

Grades are awarded at module and qualification level.

Each module will be graded as a pass, merit or distinction.

A pass is awarded for the achievement of all learning outcomes against the specified assessment criteria. Merit and distinction grades are awarded for higher-level achievement

The qualification grade of a merit or distinction is awarded through the aggregation of points gained through the successful achievement of individual units. Grading of the HND is based on learner's best performance in units at the level or above of the qualification to the value of 75 credits.

The number of points available is dependent on the unit grade achieved and the credit size of the unit (as shown in the 'Points available per credit at specified unit grades' table below).

Points available per credit at specified unit grades

Points per credit		
Pass	Merit	Distinction
0	1	2

Qualification grades are:

Points Range	Grade	
0-74	Pass	P
75-149	Merit	M
150	Distinction	D

Methods for evaluating and improving the quality and standards of learning, including consideration of stakeholder feedback

Quality and standards are enhanced through:

Committees:

- Board of Studies (Student Representatives Board)
- Examination/ Award Board
- Standards Committee

Mechanisms for review and evaluation:

- Review and validation event
- Annual monitoring report
- Student feedback questionnaires
- Annual teaching appraisal
- External examiner's report
- Course team meetings
- Quality monitoring systems

External Examiners who monitor the programme are appointed by Edexcel and are recruited from similar programmes of high standing at other Higher Education Institutions or have considerable experience in the provision of HNCs in the Construction Sector. Their work includes:

- Approving coursework assignments and assessment criteria
- Approving examination papers
- Monitoring standards through moderation of completed assessments
- Confirming assessment standards

Progression and Employment Opportunities

The program leads to employment such as a role as an Assistant Estimator, Trainee Site Manager or Agent, Contracts Manager. The programme will also provide entrance to further academic study through entry onto a range of Construction Top Up Degrees.