Programme Specification

Solihull College & University Centre

Title of Programme: HNC Diploma in Construction and the Built Environment

This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided.

1.	**Awarding Body**	Pearson BTEC
2.	**Teaching location**	Woodlands
3.	**Accreditation details**	N/A
4.	**Final award**	Higher National Certificate
5.	**Name of award**	Pearson BTEC Level 4 HNC in Construction and the Built Environment
6.	**Codes**	
	a. **UCAS code**	N/A
	b. **Solihull Qualification Code**	BUENA052
	c. **Edexcel Programme Code (& approval dates)**	500/8276/0
7.	**QAA Subject Benchmark or other external reference such as published by Edexcel if the course is a Higher National**	Construction, Property and Surveying 2008 Subject Benchmark Statement
8.	**Date this specification applies from**	01.09.15
	Approved	Mick Nicholl, Head of School Engineering and Construction

9. Educational Aims of the Programme

This programme aims to:

- provide an educational foundation for a range of technical careers in construction;
- provide specialised studies directly relevant to individual vocations and professions
- provide flexibility, knowledge, skills and motivation as a basis for career development and as a basis for progression to graduate studies
- develop students' ability in construction through effective use and combination of the knowledge and skills gained in different parts of the programme;
- develop a range of skills, techniques and personal attributes essential for successful performance in the working place.

10. Intended Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:

Subject knowledge and critical understanding includes:

A sound basic knowledge and understanding that includes:

- Mathematical methods relevant to construction
- Good practice within construction
- Scientific principles underpinning construction
- Use of Information and Communication Technology (ICT) relevant to construction
- General principles of and design techniques
- An overview of Management and Business practices

Higher level academic/intellectual skills includes

The ability to:

- Understand and apply principles and concepts;
- Present reasoned arguments and apply judgement;
- Analyse and evaluate practical problems and provide logical solutions.
- Capacity to formulate solutions to engineering problems with a level of independence

Higher practical and professional skills includes:

The ability to:

- Select and apply routine mathematical methods to the modelling and analysing of engineering problems
- Select and apply scientific principles and set up appropriate equipment for the analysis and solution of engineering problems
- Select and apply appropriate computer-based methods to solve engineering problems
- Produce a design for a system, component or process to meet a specified requirement
- Research and undertake tests for a design solution and report the results effectively
- Apply engineering techniques to take account of a range of commercial and industrial constraints
- Apply management principles and techniques to the solution of engineering problems

Higher Level transferable skills development includes:

The ability to:

- Manage and develop self;
- Work with and relate to others;
- Communicate ideas effectively both orally and in writing;
- Apply numeracy;
- Apply technology;
- Manage tasks and solve problems;

- Apply design techniques and show creativity/originality in work produced

Teaching and Learning Methods

- Acquisition of core knowledge is through a mixture of lecture/presentations/demonstration/laboratory experiment and directed study
- Analytic thinking skills are developed through discussion and self-assessment test questions.
- Practical skills are developed through laboratory experiments and the use of simulation software
- Common skills are developed through assignments and presentations, particularly in the project unit

Assessment methods

Assessment activities provide major opportunities for learning. Assessment criteria are linked to and stated in individual module outcomes.

Assessment methods vary for different modules but over the two years of the course will include

- Unseen mathematical tests
- Case studies or relevant workplace scenarios
- Practical Assessment
- Assignment Reports
- Oral presentations within the project unit
- Individual and paired practical work and group project work

Each module will include a variety of methods from the list above. Assessments in the form of assignments and in-class assessments are posted on the Moodle site and students' work collected via electronic submission and checked by plagiarism detection software prior to marking.
The number of assessments varies from unit to unit and can take the form of case studies, research projects, formal reports and presentations.

11. Programme Structure

These are examples of units you may study

Construction Year 1
Unit 1: Design Principles and Applications for Construction and the Built Environment
Unit 3: Applied Mathematics for Construction and the Built Environment
Unit 6: Health, Safety and Welfare for Construction and the Built Environment
Unit 10: Building Services Design, Installation and Maintenance in Construction

Construction Year 2
Unit 2: Science and Materials for Construction and the Built Environment
Unit 4: Management Principles and Application for Construction and the Built Environment
Unit 5: Group Project in the Construction Industry
Unit 13: Environmental Impact of Construction

Progression to Year 2

Progression onto the second year of the programme normally requires the completion of all 1st year units

Completion of the Award

All units studied must be completed with a minimum grade of a Pass in order to complete the award.

Module Descriptors

Unit 1: Design Principles and Application for Construction and the Built Environment:
Planning, design and production phases of the construction process, the coordination and management of each phase; factors affecting the selection of materials, systems and equipment; environmental impact of energy and other constraints on the planning, design and construction processes; roles, responsibilities and obligations (including liability for health, safety and welfare) of all parties involved in construction projects; cost implications and how technology affects the design of construction projects and the design processes and procedures used for the production phase.

Unit 2: Science and Materials for Construction and the Built Environment:
Scientific principles and an understanding of the properties and use of materials needed to successfully complete the other core and specialist content; analyse, apply, investigate and evaluate properties and behaviour of materials and components used for structural designs and construction operations; determine comfort levels in the design and use of buildings; experimentation and modelling of scientific principles.

Unit 3: Applied Mathematics for Construction and the Built Environment:
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.

Unit 4: Management Principles and Application for Construction and the Built Environment:
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. It is based on the principles of the Latham Report of 1994, which advocated non-adversarial, multi-disciplinary team working. 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 recognised management techniques.

Unit 5: Group Project in the Construction Industry:
Evaluate and resolve realistic practical problems by working as part of a team for a major piece of work or project that reflects the type of performance expected of technologists in a construction discipline; this work should involve interpreting an agreed brief that contains an agreed timescale for the staged development of an overall 'plan of work' and be within given, defined constraints, with the team working towards an acceptable and viable solution; enabling learners to demonstrate the application of individual high-level skills in managing self, working as a member of a team and presenting technical solutions.

Unit 6: Health, Safety and Welfare for Construction and the Built Environment:
Main health, safety and welfare legislation and approved codes of practice applicable to the construction and built environment sector, including The Construction (Design and Management) Regulations 2007; the main requirements of an effective health and safety policy, procedures and the organisational arrangements necessary for its implementation; hazard and risk identification; risk assessment and review; control measures to prevent or mitigate ill health and injury; monitoring effectiveness of safety policies and procedures.

Unit 10: Building Services Design, Installation and Maintenance in Construction
Provides learners with an understanding of the principal applications of building services to domestic, industrial and commercial buildings. Learners will also gain an understanding of issues related to the maintenance of building services. This unit should reinforce the need to coordinate building services installations within the overall construction process.

Unit 13: Environmental Impact of Construction
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. Learners will explore how the construction process impacts on the environment and the global and local issues of concern to the construction and built environment sector. Learners will also study indoor environmental effects and evaluate environmental assessment systems used to minimise these effects.

12. Support for Students and Their Learning

Student progression on course is supported both by subject tutors and central College services and includes:

- An induction programme introducing new students to the subject of study, higher level skills that need to be developed, and the college facilities (including the library, IT facilities, staff and other students).
- One one-week induction programme for second year students to refresh study skills
- College and course/ module handbooks available in print and electronic format on Moodle.
- Personal and academic support is integrated in teaching provided by supportive and accessible tutors and identified 1:1 support sessions are also available.
- Planned Site Visits and Visiting Speakers
- Extensive library and other learning resources and facilities
- Laboratories with up-to-date Materials Testing and IT facilities.
- Access to Teaching and Learning Support Services, which provides assistance and guidance eg dyslexia.
- All students are allocated personal tutors whose role is to assist them with personal problems and to advise on pastoral issues.
- Study skills sessions integrated in programme.
- Personal development planning sessions integrated into programme
- Up-to-date Computer laboratories with specialist facilities for computer networking and multimedia computing.
- Access to counsellors and support for students with special needs.
- Written assignment / assessment feedback (normally provided with 3 weeks of assessment submission).
- Regular 1:1 and group tutorial support
- Access to regularly updated course section and college wide sections on the college's intranet moodle
- Dedicated HE Common Room to provide a social study area.
- Student e-mail and access to person tutor and Course Leader

13. Criteria for Admission

Normally the course enrols students, who are in, or plan to enter, employment and who have reached the minimum age of 18. Students enter with at least one of the following qualifications:

Entry Requirements:

4 GCSEs grade C or above, plus

1 A Level, or 2AS Levels (40 points),

or BTEC National in a relevant construction/engineering qualification,

or an equivalent qualification

Comment [HB1]: Need to add the new GCSE tariff and UCAS tariff

Students with existing level 4/5 qualifications may be eligible for some accreditation for prior learning which can be discussed on an individual basis.

Mature students, over the age of 21, with a suitable background or experience may be accepted without formal qualifications.

All students will be invited to interview before an offer is made.

14. Progression

It may be possible to progress onto a HND Construction and the Built Environment at Solihull College on successful completion of the HNC.

The units have been designed to fit the Trailblazer Standard for Construction Management 2015 (Draft)

It may be possible for you to join courses at level 5 at local universities such as Birmingham City University or Coventry University.

15. Evaluating the Quality of Teaching and Learning

Evaluation of the Standards of Teaching and Learning is undertaken using the results of the following documents;

- Student feedback questionnaires, both initial impressions and the spring survey
- Module review forms completed by students at the end of every module and summarised by the course leader.
- Student input to the Programme Quality Board held twice a year.
- Student representations made through the HE Student Council.
- Action areas fed by the above to the course based Annual Monitoring report.
- Findings of the peer teaching observation scheme and recommendations for improvement that are made
- Periodic Review of the programme led by the Dean of Higher Education and Curriculum Innovation and including the views of critical friend, students, ex-students and employers.
- External Verifiers report and audit of assessed work

Students have the opportunity to comment on the quality of the programme in the following ways

- Submitting module evaluation questionnaires which are shared in team meetings and relevant actions raised are included in the Annual Monitoring Review.
- Student Representatives volunteer from each group to bring forward the views of their colleagues informally and within bi-annual programme quality boards (PQB). The minutes of student meetings are placed on Moodle and actions are reviewed at each PQB.

The ways in which the quality of this programme is checked, both inside and outside the college, are:

- External Examiners, who produce an annual report which is available to view on Moodle and also results in an action plan for the following academic year.
- Annual module review in the form of student evaluations which are discussed in a team meeting
- Periodic programme review to identify best practice and invite employers to contribute to the design of the programmes
- Invitation to attend Programme Quality Boards to all students and create a transparent discussion to share ideas, best practice and areas for improvement.

16. Regulation of Assessment

- The programme is the subject of an Annual Monitoring Report (AMR) the last section of which is a Quality Improvement Plan (QIP), written by the course leader with help and input from the teaching and tutoring team this is passed to the Head of School for audit and from them to the quality unit for further audit and acceptance as part of the College plan.
- Assessment rules and regulations and quality standards are those overseen by the HE Quality and Standards Board.
- Assessment and assessment vehicles are regulated by the internal verification system for each programme which is itself audited by the quality unit within the College and also by the External Examiner appointed by Pearson.
- External verification of assessment and of the provision and standards of teaching are regulated by Pearson BTEC and their quality unit, the programme has to seek approval for continuance every 5 years. Their requirements are monitored annually by the visit and report of their appointed external verifier (Standards Verifier)
- Also the programme is the subject of periodic review by QAA, ensuring that national benchmarks are met throughout the programme.

Standards Verifiers (External Examiners) are appointed by the Pearson

The role of Standards Verifier is that of moderator. In order to do this they check and review:

- action points from previous reports
- Centre assessment policy and boards
- effectiveness of assignments and internal verification
- the maintenance and audit of assessment records
- student registration and certification claims
- student support and review
- areas of good practice

17. Enhancement

- An action plan is provided in each annual programme report and progress in achieving enhancements is regularly reviewed
- Good practice in teaching and learning is developed and disseminated through regular staff development workshops and through participation in internal verification of completed student work.
- Staff development activities are discussed at annual appraisal interviews and are actively encouraged to develop their professional practice and industrial experience.

18. Programme Resources

Suitable IT resources including AutoCad

Materials Laboratory

Employer links providing suitable site visits

Access to equipment at Coventry University

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided. More detailed information can be found in the programme handbook or online.

Document History

1. 06.08.15
2. 23.02.17
3.

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