University Centre Somerset

Part of Bridgwater & Taunton College

BTEC (RQF)
Higher National

Student Handbook

2019/2020

HNC Construction and the Built Environment (Civil Engineering)

NB: This handbook is for general guidance only. Content may be subject to change.
This handbook can be provided in other formats upon request from HE@btc.ac.uk

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1 . Introduction

Welcome to Welcome to University Centre Somerset, part of the Bridgwater and Taunton College and the BTEC Higher National in Construction and the Built Environment (Civil Engineering). Bridgwater and Taunton College is the pre-eminent Higher Education (HE) institution in Somerset with approximately 1000 students following HE programmes. Our focus is very much on you, the student, and our aim is to help you achieve your goals. The UCS has strong industry links and we have close relationships with employers to ensure our courses prepare our students to be successful in their chosen careers.

The staff would like to take this opportunity to wish you every success and hope you are ready to work to your maximum potential.

This handbook is designed to help you understand the requirements of your course, it is also provides useful information on the facilities that can be found across our 3 campuses. Please keep a copy safe and use it as a first point of reference during your studies. While the majority of your course content will be located on the VLE (Blackboard) this handbook offers useful guidance on the regulations that govern your course, should you require more comprehensive information on College policies and procedures please take a look at the HE Info Hub on Blackboard, and follow the links to Policies and Regulations, specifically Pearson (HN's).

1.1 BTEC Higher Nationals

Key Features of BTEC Higher Nationals

The new BTEC Higher National qualifications in Construction and the Built Environment (Civil Engineering) are designed to address an increasing need for high quality professional and technical education pathways at Levels 4 and 5, thereby providing students with a clear line of sight to employment or to progression to a degree at Level 6. Developing a range of skills and techniques, personal qualities and attributes essential for successful performance in working life, thereby enabling learners to make an immediate contribution to employment at the appropriate professional level.

BTEC is one of the world's most recognised applied learning brands, engaging students in practical, interpersonal and thinking skills, for more than thirty years. BTECs are work-related qualifications for students taking their first steps into employment, or for those already in employment and seeking career development opportunities. BTECs provide progression into the workplace either directly or via study at university and are also designed to meet employer's needs. Therefore, Pearson BTEC Higher National qualifications are widely recognised by industry and higher education as the principal vocational qualification at Levels 4 and 5.

The purpose of BTEC Higher Nationals in Construction and The Built Environment is to develop students as professional, self-reflecting individuals able to meet the demands of employers in the construction and the built environment sector and adapt to a constantly changing world. The qualifications aim to widen access to higher education and enhance the career prospects of those who undertake them.

2. The College

The College is committed to providing you with the best possible teaching and learning experience during your time with us and this ethos is outlined in the College's Mission Statement as below.

College Mission Statement

We will inspire the people of the communities we serve to achieve success by providing:

- the best possible opportunities for learning and skills development

- a creative and exciting partnership with our staff
- a welcoming, safe and supportive environment

Our Vision

Our vision is to be a world class education and training organisation which creates outstanding development and progression opportunities for our students, customers and communities through leading edge practice and partnerships with employers.

Induction

Induction and Enrolment starts in the 3rd week of September, you will be invited to enrol at the College, and this will usually take up a full day. At enrolment you will submit your enrolment form for checking, confirm your finance options and receive your student lanyard. You will also get to meet key members of the teaching team, including your course leader and receive an induction not only to your course but also to life as an HE student. Studying at HE level can feel different to previous study and it is important to understand our expectations of you. Many of the students completing the HNC will already be in full or part-time employment and so there is even more pressure on you to manage your time effectively. Your course team understands this and you will be designated a personal tutor to whom you can raise any concerns you may have. We understand that most HNC student's priority is their studies but it is also good to meet other students both on your course and in other areas of industry, we encourage collaborative opportunities and projects within your studies and we have designated a large area to HE only study and access, including the HE Study Centre located on the 2nd Floor of the H Block and the HE Common room located on the Ground Floor of the H Block where you can find comfy seating, and study rooms, tea/coffee making facilities, a fridge and microwave.

Registration & Certification Information

Once your enrolment forms have been received by the team, they will then be passed on to the exams team who are responsible for registering you with Pearson. Pearson is the awarding body, responsible for the validation of your qualification and certification of your final qualification.

Sport and Leisure

There are many opportunities open to all students to play for a variety of different sports teams as part of the Sports Academy Programme. For more information on the sports available within the College please visit Amy Fisher (HE Engagement Officer) in the Core, the Core is located on the second for of the Technology Block.

Catering

There are a variety of food outlets at the Taunton Centre, including a Coffee Shop and Canteen. Students at Taunton also have access to the Quantock Restaurant, the restaurant is by reservation only for lunch and dinner but they have walk-in service with a selection of cakes and filter coffee on a Wednesday, Thursday and Friday morning. For full details and their current menu please visit here

Accommodation

UCS has two principle halls of residence located at Cannington and Cannonsgove, just outside Taunton. If you wish to enquire about the availability of accommodation, please contact the Student Liaison Team, their contact details are listed within the Key Contacts section of this Handbook.

Transport arrangements

Located just off Junction 25 of the M5 and on a major rail link that runs between Penzance and Paddington, Taunton is easily accessible by both road and rail. Taunton is the County Town of Somerset; formerly famous for its cattle market, Taunton is now the home of Somerset County Cricket and is a popular tourist destination. The river Tone passes close to the College and provides popular walks and areas of recreation all year round. The Castle sports centre, located behind the main campus, is open to the public via a subscription basis. Taunton campus provides ample parking for students, at a charge of £1 per day, there are also designated areas for moped and bicycle parking which is free all year round. For more information on the facilities available on each of our 3 campus sites of Bridgwater, Taunton and Cannington please visit www.btc.ac.uk or call Student Support on 01278 441233 who will be happy to guide you on the matter.

Child Care

The college has its own childcare facilities, but spaces are limited. If you would like more information, please contact our Ofsted outstanding day nursery, Mama Bear's on 01823 276261 or email wellingtonroad@mamabear.co.uk

2.1 Key Contacts

For all queries your first point of contact is normally your Course Leader. If you however need further information or support, independent of your course team, and are uncertain who can help, you are always welcome to contact the HE Team via HE@bridgwater.ac.uk

You may need to contact a variety of staff during your time at the College; the key staff you may need to get hold of are detailed below for you:

Role	Name	Contact information
Principal	Andy Berry	If you have any queries, please email: HE@btc.ac.uk
Vice Principal	Louise Rowley	
Director of Student Services	Mark Nettle	
HE Co-ordinator (Head)	Pauline Osborne	
HE Quality Co-ordinator	Jessica Thorne Sarah Green	
HE Data & Compliance Co-ordinator	Katharine Briffa	
To help with ensuring that you are able to access the materials that you need in order to complete your course and can offer other support with HEADstart	The LRC Team	lrcenquiries@btc.ac.uk
To solve IT issues	Technology Helpdesk	technologyhelpdesk@btc.ac.uk
Printing and copying	Reprographics	Located in the Bridgwater LRC through the hatch to the right of the library
Support with specific difficulties you may be facing	Counselling and Mental Health Team	counsellingandmentalhealthteam@btc.ac.uk
To help with accommodation, travel and any other student based issues which you may encounter during your time her	Student Liaison Team	studentsupport@btc.ac.uk
Loan and payment queries	Finance Team	finance@btc.ac.uk
To provide extra support with learning in lessons and exams	Learning Support Team	learning.support@btc.ac.uk
For future course and career options and information	Information and Guidance Team	info@btc.ac.uk

Support for international students	International Office	int@btc.ac.uk

Introducing your course team

Key staff helping you through the challenges of study at this level include: the **Curriculum Manager**, **Course Leader and Tutor.** As part of the Programme Management group they are responsible for the effective delivery and promotion of the programme and providing, as required, specialist advice to students. These contacts are listed below:

Role	Name	Contact information
Assistant Principal	Jason Kilduff	Kilduffj@btc.ac.uk
Head of Construction	Martin Reeves	Reevesm@ btc.ac.uk
Curriculum Area Manager	Simon Davis	Daviss@btc.ac.uk
Course Leader	Chuks Egbuna	Egbunac@btc.ac.uk

Other useful contacts are the teaching team who you can also contact with queries:

Name	Contact information
Ian Hodge	Hodgei@btc.ac.uk
Ian Whyte	Whytei@btc.ac.uk
Blessing Mafimisebi	mafimisebib@btc.ac.uk

The Principalship

Role	Name	Contact information
Principal	Andy Berry	berrya@btc.ac.uk
Vice Principal	Louise Rowley	rowleyl@btc.ac.uk

Support Services

Role	Name	Contact information
Director of Student Support	Mark Nettle	nettlem@btc.ac.uk
Learning Resource Centre Manager	Trudy Gabell	gabellt@btc.ac.uk
LRC - HE Specialist	Jolanta Peters	petersj@btc.ac.uk
HE Team	[redacted]	HE@btc.ac.uk

External Examiner

Your External Examiner (EE) is appointed on an annual basis by the body responsible for approving the overall award, the awarding body, Pearson. Appointments are not normally confirmed until the Spring Term. You may meet your EE during your time on the course but any contact should be conducted via the Course Leader. You can find previous year's EE report on the HE Info Hub.

2.2 Communicating with your course team

Staff communicate information to students in many ways:

- Email
- Student Portal (Blackboard)
- Programme Noticeboard
- Outside of taught sessions – staff should indicate their availability to you
- Formally in taught sessions
- Tutorials

2.3 Tutorial Arrangements

You will be allocated a Course Tutor from among the academic staff. They are there to offer you academic and pastoral support. Depending on the nature of your course and demands of your timetable/employer you may be timetabled for regular tutorial sessions throughout the year.

Check Blackboard and your College email on a regular basis
in case of any important updates

Occasionally, you may need to see a member of academic staff. It is a good idea to send an email, telephone or leave a note with a contact number to arrange a suitable time in advance. Staff will try to deal with your problems as soon as they can.

2.4 Pearson

Pearson is the Awarding Body ultimately responsible for ensuring the overall quality and standards of your programme of study and the College is responsible for the delivery of your programme and ensuring it meets the standards prescribed by Pearson.

It is the Colleges responsibility to mark assessments, confirmed awards and providing all the support, resources and facilities you will need. Pearson will appoint an External Examiner to come and review the standards of assessment on an annual basis. The External Examiner will also try to meet with students on the course during this annual visit and may ask you a few questions on your experience at the College.

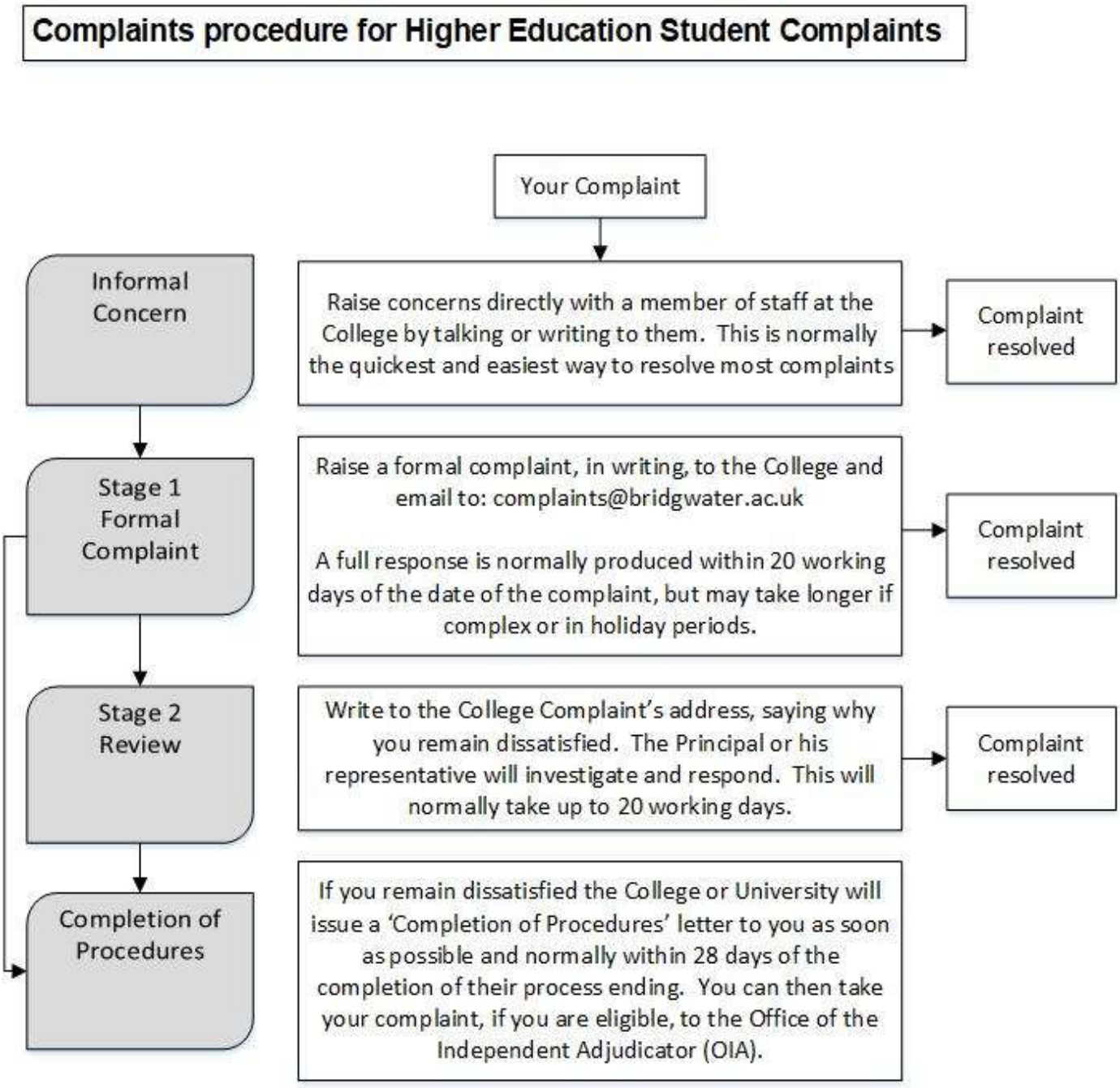
As an HN student you will have access to Pearson's HN Global site and you can register with the site using your BTC email address, after enrolment. Each year Pearson will send out an email to all registered students, asking them to complete the HN survey, this survey helps Pearson track overall satisfaction levels and helps inform their global provision.

2.5 Complaints

If you have any queries or concerns about any aspect of your programme you must always contact the College in the first instance. If you have a particular concern, we hope to deal with it informally in the first instance, either via your tutor or Programme Manager or through the Student Representative/Learner Voice system.

If your problem is not resolved to your satisfaction, or if you believe that your concerns are not being addressed then you may wish to submit a complaint to the Quality Team by emailing complaints@btc.ac.uk

Here's an overview of the system in place for dealing with formal complaints:



If the College is unable to resolve your query, or complaint, then it will be escalated to Pearson if appropriate or the Office of Independent Adjudicators.

2.6 Higher Education at the College

In addition to this programme handbook you will also find information relating to more general services, support, activities and other items relevant to higher education students on the College's VLE, Blackboard under 'HE Info Hub'.

3. Indicative Programme structure

Pearson BTEC Higher National qualifications are designated higher education qualifications in the UK. They are aligned to the Framework for Higher Education Qualifications (FHEQ) in England, Wales and Northern

Ireland, and Quality Assurance Agency (QAA) Subject Benchmark Statements. These qualifications are part of the UK Regulated Qualifications Framework (RQF).

You must achieve a minimum number of credits to be awarded the qualification during your period of study on programme this is a minimum ***of 120 credits for a BTEC Higher National Certificate (Level 4) or minimum of 240 credits for a BTEC Higher National Diploma (Level 5).***

The assessment of BTEC Higher National qualifications is based on learners meeting and evidencing the specified criteria.

All units of study will be individually graded as a 'pass', 'merit' or 'distinction'.

To achieve a pass grade the learners must meet the assessment criteria set out in the specifications.

This gives transparency to the assessment process and provides for the establishment of national standards for each qualification.

Year One

Unit title (as stated by Pearson)	**Pearson Unit Code**	**Credits**	**Level**	**Mandatory/Optional**
Construction Technology for Construction and the Built Environment	Y/615/1388	15	4	Core Mandatory
Science & Materials for Construction and the Built Environment	D/615/1389	15	4	Specialist Mandatory
Surveying, Measuring & Setting Out	H/615/1393	15	4	Optional Mandatory
Mathematics for Construction and the Built Environment	J/617/6366	15	4	Specialist Mandatory

Year Two

Unit title (as stated by Pearson)	**Pearson Unit Code**	**Credits**	**Level**	**Mandatory/Optional**
Construction Information	R/615/1392	15	4	Specialist Mandatory
Principles of Structural Design	R/615/1406	15	4	Specialist Mandatory
Construction Practice & Management	R/615/1390	15	4	Core Optional
Individual Project	R/615/1387	15	4	Core Mandatory

4. Studying in Higher Education

4.1 The HE Student Charter

The full Student Charter is available on the HE Info Hub on Blackboard (you will require your College log-in details to access this site). This details in full what you can expect from the College and what the College expects from you in return. Key points from the Charter are summarised and, in some instances, expanded on for you below in relation to studying your programme.

4.2 What we expect from you

We expect that at all times you will maintain a professional approach to your studies. This includes your attitude and conduct regarding punctuality, attendance, assessment deadlines and relationships with staff and other students. Consistent failure to attend, without adequate reason, may result in your removal from the course in accordance with the College's Disciplinary Procedure.

It is our experience that students who consistently attend classes normally succeed in achieving their qualification.

Students who do not attend invariably fail.

Probably the most significant difference between Higher Education level life and college or work is the amount of personal responsibility you have to take for your studies. This has implications for how you approach your studies.

You will be expected to take responsibility for your own educational development. This means relying less on staff and fellow students and more on yourself for ensuring you:

- attend taught sessions
- plan your time carefully
- read around your subject
- do not miss deadlines
- seek help, if you need it, as soon as possible

We will willingly give you as much help and support as we can but ultimately **you** are responsible for your success or failure

Effective Learning

Learning refers not only to the total facts and information you can recall at any given moment but also to how you can use and apply the information you have acquired and how you store and retrieve it. The quality of your learning will depend on the following:

- Your attitudes, aims and goals
- Your dedication
- Your aptitude for the subject
- Your willingness and ability to learn
- Your use of resources such as tutors, books, materials, and work experience

Additional Support

If you believe you may require any additional support to assist or enhance your learning, at any point in the year, you must make your Course Leader or Tutor aware. This will enable us to ensure that you are adequately supported. If your needs can be sufficiently identified in advance of the start of your course, we can ensure that support is offered to you from the very beginning of your course

You may also be eligible to apply for the Disabled Students Allowance (DSA) which can help pay for the support you require. Please speak to your Course Leader or contact the learning support team on their email address: learning.support@btc.ac.uk.

4.3 What you can expect from us

At this level of study you will be treated as a responsible adult, capable of acting on your own initiative. You can expect the very highest standards in teaching quality. All members of the programme team are experienced and will have qualifications in their subject areas.

Your Personal Tutor

You will be allocated a Personal Tutor from among the academic staff. They are there to offer you academic and pastoral support. Depending on the nature of your course and demands of your timetable/employer you may be timetabled for regular tutorial sessions throughout the year.

Resources

There are a wide variety of excellent quality resources available to you to support you in your studies. Many of the resources are available via the College's Learning Resource Centre (LRC) and the Virtual Learning Environment (VLE), Blackboard. You will receive an induction to the Colleges LRC at the start of the academic year, it is essential that you complete this course as part of your induction programme. The HEADstart programme not only offers information on how to source materials but it also give you guidance on study skills and referencing, essential to L4 and L5 studies.

You will be expected to make use of these resources on a regular basis and in your own time. The LRC team are always happy to provide additional input and are very knowledgeable about resources, referencing and HE academic practice so do make use of them.

Support and guidance on accessing and making effective use any resource is always available from the Learning Resource Centre

5. Programme Calendar

Term dates

Autumn Term 2019	
Induction and Enrolment : w/c 16 September 2019	Fresher's Week: w/c 16 September 2019
Start of term: Monday 23 September 2019	End of term: Thursday 19 December 2019
Reading week: Monday 28 October 2019 – Friday 1 November 2019	
RAG Day: Thursday 19 December 2019	

Spring Term 2020	
Start of term: Monday 6 January 2020	End of term: Friday 3 April 2020
Reading weeks: Monday 17 February 2020 – Friday 21 February 2020	
Easter Holidays: Monday 6 April 2020 – Friday 17 April 2020	

Summer Term 2020	
Start of term: Monday 20 April 2020	End of term: Friday 26 June 2020
Reading week: Monday 25 May 2020 – Friday 29 May 2020	
Bank Holiday: Friday 8 May 2019 and Monday 25 May 2020	

6. Teaching and Learning

Teaching methods will vary from unit to unit. Usually they may include lectures, practical activities, workshops, problem-solving classes and tutorial support, often supplemented by handouts and booklets produced by staff. Where available, use will be made of online learning materials.

Teaching and Learning Strategies

Throughout the programme, teaching and learning strategies adopted by the unit leaders will acknowledge and encourage a range of learning styles. The programme aims to provide a balance between provision of information and opportunities to actively assimilate, apply, question and critically reflect. Teaching and learning strategies will:

- introduce you to and encourage you to engage in new areas of knowledge. You will also be given the opportunity to broaden and deepen your existing knowledge;
- give you the opportunity to acquire practical experience in a range of activities relevant to your employment;
- encourage you to engage in critical reflection. You will be asked to reflect on new knowledge and understanding and on your own learning experiences.

Some aspects of construction require higher level maths skills than others, but throughout your studies you will be using some level of maths within the curriculum. It is vital that students taking a BTEC Higher National in Construction and the Built Environment (Civil Engineering) are aware that these skills will be required throughout their studies, and as part of learning activities and assessments to ensure their skills are in line with current industry standards.

Teaching and Learning Methods

Throughout the programme you will be given opportunities to:

- participate in lectures and workshops which will develop your knowledge and understanding of issues related to your subject; work in groups to solve problems;
- plan and deliver short presentations to your peers;
- generate appropriate questions in the pursuit of knowledge required to complete your analysis of a problem area;
- research areas of relevance to the programme, using selectively library and online resources;
- critically evaluate the validity and implications of information relevant to your programme of study;
- create clear written reports and well-structured oral presentations appropriate for a specific audience;
- critically review your experience and effectiveness of working in a team;
- evaluate your own work and that of other students;
- undertake projects to benefit your professional development

Lectures

Most modules will have timetabled lectures. A lecture involves the lecturer speaking and the student listening and taking notes. You will need to develop your note-taking skills to get the most out of a lecture.

You may be given handouts in some lectures to help support or enhance your learning. These may also be posted on the Virtual Learning Environment but are in no way a substitute for not attending lectures. You may miss vital information that is only given verbally by the lecturer.

Lectures give you information on a topic and a structure from which you can work to develop your own ideas and knowledge. You need to build on the basis the lectures provide by reading around the subjects, conducting research and discussion with your peers.

Reading

You will need to make time to do as much reading around your subject area as possible, the expected amount per unit is indicated in the Programme Specification.

We cannot emphasise enough how important reading is to you achieving a good grade. Reading around your subject matter is crucial and one of the key skills you will acquire as a higher level student. It is something you will get at better at the more you do and in doing so your skills at filtering and assimilating information will also improve.

It is advisable to try and purchase a key text for each unit (there is a book shop service with 10% discount available through the Learning Resource Centre) as recommended by your lecturers. You can borrow many texts from the College's Learning Resource Centre (LRC) or through the Inter-Library Loans service from other Libraries also through the LRC, there are also thousands of texts available electronically through the College's E-library. At certain times of the year demand for printed texts may be very high, so do not rely on them exclusively.

It may be relevant for you to follow current issues related to your subject by reading additional texts such as journals, newspapers or relevant websites. Journals (not magazines!) are an important source of information about very specialised subject matter as presented and debated by leading experts and academics and should always be high on your priority list to read.

Private Study

Personal, private study time is an invaluable way to ensure you have time to reflect on all the learning that has happened in and out of class. This is a key feature of being a HE student, reflection allows time for personal development and ensuring you understand all the information you have been presented with or have researched. You need to ensure that you make time for private study. To assist with this the College has a number of dedicated, quiet study areas are designated for use by all students in the LRC, HE study centre and around the HE common room, which can be accessed by scanning your ID card.

HN Global

As a student registered with Pearson you will also have access to many online resources. To access these resources you will need to sign up to HN Global.

Study Groups

In all programmes the College encourages students to learn skills to enable them to work as groups and teams. These are not merely useful during your course. When you leave for employment you will find such skills and experiences invaluable. Sometimes you will find you are assessed on a piece of written work or presentation completed as a group. We find that many students benefit significantly from working collaboratively in study groups, to check their understanding of difficult issues or concepts and to revise.

Virtual Learning - Blackboard

You can access the VLE from across the College Campus or remotely via our remote desktop link. Bridgwater and Taunton College have a large number of computers on site, as a student of HE you have access to the HE Study Centre in addition to the LRC and your classrooms. From computers on site you can research on the internet, contact tutors, utilise course specific software and upload assessments. In addition to these there is also a Virtual Learning Environment (VLE) called Blackboard. Within this you can access learning materials designed by lecturers, this may include online tests to aid learning, submission or collection of assessments electronically and access to course management materials such as timetables and front sheets.

Learning Support

Our Learning Support Team provides individualised support that is tailored to your needs. So whatever your disability, learning difficulty or additional needs, please tell us as soon as possible. You can do this by completing a Student Disclosure Form in your first meeting with your Personal Tutor, or at the Helpzone. Once you submit this document, a Learning Support Tutor will be in touch to discuss your needs privately.

In these ways, we do everything in our power to help you flourish in your time at Bridgwater and Taunton College.

7. Assessment

Every assessment is important

Your performance in a unit will be assessed during the academic year through formal assessments. You must gain at least a pass in every assessment in order to achieve the unit which counts towards your overall qualification.

The method of assessment may vary from unit to unit and lecturers will advise you of the method(s) to be used. The varying methods reflect the need for you to develop a range of different skills, knowledge and understanding.

In all cases methods are chosen to assess the particular Learning Outcomes that the unit seeks to provide. Similarly you will be given Assessment Criteria that will be used to judge the extent to which you have demonstrated you the Learning Outcomes in each module.

7.1 Assessment Regulations

The College operates all Higher National Programmes in accordance with the BTEC Centre Guide to Quality Assurance and Assessment 2018-19: Levels 4 to 7. The BTEC Centre Guide is supported by a number of HE specific and other cross-college policies that can be accessed via the HE Info Hub. If you have any queries relating to the policies and regulations governing specific aspects of your programme please contact the HE Team by emailing he@btc.ac.uk or alternatively you can call one of our HE Co-ordinators on 01823 366536.

7.1.1 Submission of Coursework

You will be given an assessment schedule during your first few weeks of study. The schedule will outline the release dates and had in dates for your assignments, and you must work to those deadline.
If you fail to submit work by the deadline then you assignment will be noted as a non-submission.

7.1.2 Minimum Pass Marks for Units

All units are made up of criteria and you must achieve all of the core criteria to achieve the unit. Successfully meeting all the core criteria will enable you to pass the unit, however students will also have the opportunity to attempt both merit and distinction criteria within assessments to achieve the higher grades.

7.1.3 Student Attendance

As a responsible institution the College has a duty to monitor attendance, and to act on non-attendance so that you can be supported to successfully complete your programme of study.
The College is required to monitor your attendance and provide a termly report to Student Finance England.

The College expects you to attend all timetabled classes. It is in your own interest that you attend all timetabled classes; it will help you achieve successful results. Please arrive on time for classes as late arrival causes disruption to other class members and your tutor.
Please notify your programme administrator, module tutors and personal tutor in advance (by email or phone) if you expect to be absent from timetabled sessions. You will need to make arrangements to catch up on any work missed during absence.

Please avoid taking holidays during term-time; this includes the weeks leading up to the end of the academic year.

We recognise that there are occasions where students have difficulties attending classes because of personal, financial or academic problems. If so please talk at an early stage to your Tutor.

A poor attendance record could result in the following:

- Maintenance loans/grants payments being withheld
- The College informing the Student Loan Company and the UK Visas and Immigration as applicable. Failure to attend could therefore impact on the funding available and/or your ability to remain in the country
- you may be withdrawn from the programme

BTEC Higher Nationals, centres are reminded of the Expectation in Chapter B3 of the QAA's Quality Code, Indicator 8 states:

'Higher education providers take deliberate steps to assist every student to understand their responsibility to engage with the learning opportunities provided and shape their learning experience.'

While we appreciate that some absences cannot be avoided, we also expect students to catch up on the work at the earliest opportunity.

If you feel that your studies may be impacted by absence then you must notify your tutor at the earliest possible opportunity who will be able to advice on how best to address the situation. They may be able to offer you additional help, or direct you to resources that will enable you to catch up on work.

In some instances your tutor may advise you to apply for Extenuating Circumstance.

7.1.4 Rules governing extensions to submission deadlines

It is important that you have a good reason if you require an extension for a piece of course work.

Extensions of one week may be granted by your course leader for valid circumstances. Extensions of more than one week may require review by the HE Quality Team. If you feel that you may miss a submission

deadline due to a situation that has arisen that is unforeseen, is sudden in its nature or is out of your control then you should contact your course leader immediately either by phone, in person or by email.

7.1.5 Extenuating Circumstances

If you course leader feels that your circumstances are likely to be valid then they will ask you to complete an extenuating circumstances form.

- **To request an extension** the Extenuating Circumstances and Extension Form must be completed and submitted with appropriate supporting evidence (see below for guidelines) **before** the assessment deadline.

- **To request consideration at the Assessment Board** the Extenuating Circumstances and Extension Form must be completed and submitted with appropriate supporting evidence (see below for guidelines) **at least 10 working days prior to the Preliminary Board.** Consideration by the Assessment Board are for when:
    - There is an ongoing circumstance during the year where extensions have been granted but the student feels that they have not adequately addressed the situation as the circumstance has developed over the period of the time.
    - The student did not apply for extensions during the year but wishes the Board to take account of the circumstances in relation to overall grades.
    - The student was not fully aware of the impact circumstances until after the assessment had taken place.

Examples of circumstances that would not normally be considered valid:

- Alarm clock did not go off
- Car broke down, train/bus delayed or cancelled, other public transport problems (unless you can demonstrate that you allowed adequate time to compensate for such problems as might reasonably have been anticipated)
- Childcare problems that could have been anticipated
- Accidents or illness affecting relatives or friends (unless serious, or you are a sole carer)
- Unspecified anxiety, mild depression or examination stress
- Cough, cold, upper respiratory tract infection, sore throat, minor viral infection, unless the illness was at its peak at the time of an examination, end-of-module test or in-class test and the corroborating evidence refers to the impact on your performance
- Financial problems (other than cases of exceptional hardship)
- Holidays, house moves, family celebrations or other events where you either have control over the date or may choose not to participate
- Computer problems, corrupt data, disk or printer failure or similar
- Problems with postal delivery of work (unless recorded delivery or registered mail)
- Time-management problems (e.g. competing deadlines)
- Appointments (legal, medical etc.) that could be rearranged
- Territorial Army commitments or similar (unless unavoidable)
- Sporting or recreational commitments (unless the student is representing the College in a national competition or representing his/her country in an international competition)
- De-registration

Examples of circumstances that might be considered valid:

- Hospitalisation, including operations
- Health problems

- Personal or psychological problems for which you are undergoing counselling or have been referred to a counsellor or other qualified practitioner
- Childbirth (including a partner in labour)
- Bereavement causing significant impact/effect
- Major accident or injury, acute ailments or conditions which coincide with an assessment deadline or an examination or test, or are sufficiently long-lasting to impact on a significant part of a term
- Clinical depression or other mental health problem
- Recent burglary/theft/serious car accident
- Jury Service that cannot be deferred
- Representing the College at national level or your country at international level in a sporting event
- For part-time students in full-time employment, exceptional pressure of work or permanent change of employment circumstances
- Late diagnosis of, for example, dyslexia, resulting in no support or examination provision
- Separation or divorce - student or parental (provided the facts and the effects are independently corroborated)
- Unavailability of the upload facility prior to the deadline for an assignment or examination where it has been confirmed by the module leader that this would have had a material effect on the preparation for an assessment

Examples of circumstances <u>which might be considered</u> as valid circumstances:

Example of circumstance	**Guide to appropriate evidence** Please note that dates of any evidence submitted must correspond to the assessments dates affected on the extenuating circumstances form.
• Hospitalisation, including operations	Doctor/hospital/consultant/counsellor note/letter
• Long-standing health problems	
• Personal or psychological problems for which the student is undergoing counselling or has been referred to a counsellor or other qualified practitioner	
• Chronic illness	
• Major accident or injury, acute ailments or conditions which coincide with an assessment deadline or are	
• Childbirth (including a partner in labour)	Birth certificate/doctor's note etc
• Bereavement causing significant impact/effect	Death Certificate as available and other written evidence from family/friends as evidence prior to certificate becoming available.

It is important that any extenuating circumstances which may have affected academic performance are reported regardless of whether the assessments have been passed or failed.

Many students do not divulge extenuating circumstance as they wish to be judged on 'academic merit' alone. The College does not normally accept this as an adequate reason for not disclosing the details of extenuating circumstances. It is therefore essential that you ensure you disclose all relevant information prior to the assessment deadline for an extension or the Preliminary Board meeting.

7.1.6 Confidentiality

Normally circumstances are considered by those present at the Preliminary Board which is a confidential meeting. Details of extenuating circumstances will be confidential to the College staff authorised to receive and consider them.

As required by the Data Protection Act, 1998, the College will not normally disclose personal information to a third party other than with the data subject's explicit permission; except where there is a legal obligation to do so. Likewise it is not possible for the College to obtain information about you from a third party (such as a doctor) without your explicit consent.

7.1.7 Appeals

If you wish to lodge an appeal against the decision of the Assessment Board you may do so in accordance with Bridgwater and Taunton College's HE Academic Appeals Policy. All appeals must be submitted within 10 working days of the date of publication of results. A copy of the policy can be found on the HE Info Hub or can be requested by emailing he@btc.ac.uk

7.1.8 Recognition of Prior Learning

Recognition of prior learning is a mechanism whereby learners can be accredited for the experience and competence acquired in their working lives or education. It thus provides a vehicle for exemption or part exemption, from the normal procedures for acquiring a qualification.

If you believe you may have a case for RPL it is important to speak to your tutor at the start of your course. They will be able to look into the information you provide. All cases for RPL are treated independently.

If a learner has certificates to prove attainment of specific credits, units or modules or ones which are considered to be equivalent, then they should apply for exemption from the relevant parts of the learning programme, not RPL.

For further information on the RPL process please speak with your tutor or refer to the HE Policy for RPL which is located on Blackboard, in the HE Info Hub.

7.1.9 Advice and Support

If you are unsure about any of these areas, please consult with your Programme Leader or Personal Tutor or email the HE Quality Team he@btc.ac.uk

Deadlines for the submission of your assessments will be specified and are spaced throughout the year as much as they can be. If you have any concerns about the workload and timing of assessments please raise this with your Course Leader in the first instance. Please bear in mind that sometimes it is unavoidable that assessment deadlines are close together. Your schedule will be available to you on your Programme site on Blackboard.

8. Formative and Summative feedback

Assessment of BTEC HN's takes the form of both Formative and Summative feedback. Formative assessment is an integral part of the BTEC assessment process, involving both you and your tutor. Formative assessment always takes place prior to summative assessment and focuses on helping you to reflect on your learning and improve performance. Providing feedback in this way enables you to make improvements to consolidate a Pass or attain a higher grade. Formative assessment empowers you to act to improve your performance. Feedback on formative assessment must to constructive, timely and provide clear guidance and actions for development. After you have. While much of your time at College will be spend within the classroom environment, students working at L4 and L5 should be capable of undertaking independent study and research. Our HEADstart programme will help you to navigate the resources available to you and give you a basic grounding in study skills, which will be developed by your tutors. The LRC staff are always on hand to assist and offer advice in terms of sourcing materials and referencing and your tutorials are there to support you though the formative assessment process and provide pastoral support should you require it.

Summative assessment is the final grading of the assignment, where your tutor will agree which assessment criteria you have met and the outcome will be recorded. All summative assessment is subject to confirmation by the Award Assessment Boar, usually held in the summer.

9. Award Assessment Board

The quality of your BTEC HN Programme is governed by the awarding body Pearson and the overarching Quality Assurance Agency, an independent body that checks the standards and quality in UK higher education. Part of this process is the requirements of all institutions delivering at L4 or higher to hold examination boards. Chapter B6 of the UK Quality Code for Higher education outlines these requirements. It states:

'there are often different tiers of examination boards or assessment panels; for example, where one tier is responsible for deciding on the mark or grade a student should receive for an individual unit/module, and the other tier is responsible for deciding on the student's progression to the next stage of the programme, or on the final result based on the full set of marks.'

At Bridgwater and Taunton College we refer to these as our Pre-liminary Board and our Award Assessment Board. Our HN Pre-liminary Board typically takes place in late June and our Award Assessment Board in early July. After the Award Assessment Board you will receive communication from the College to confirm your unit grades. If you are completing the first year of your HNC you will receive confirmation of progression to stage 2. If you are in your second year of your HNC or final year of your HND you will receive confirmation of the Award you will receive.

10. Referral Board

For students that are unable to complete their particular stage of study, due to a failure to achieve a particular element/unit, the normal procedure will be to refer this work over the summer period. Most referrals will be treated as a second attempt and the element will be capped at a pass. Students that have referral work to complete will be contacted after the Award Assessment Board with details of their referral work and the date it must be submitted by.

Students that fail to complete over 50% of their units in one academic year will normally be required to repeat the year with attendance.

11. External Examiner

Your External Examiner (EE) is appointed on an annual basis by the body responsible for approving the overall award, the awarding body, Pearson. Appointments are not normally confirmed until the Spring Term. You may meet your EE during your time on the course but any contact should be conducted via the Course Leader. You can find previous year's EE report on the 'HE Info Hub' on Blackboard.

12. Plagiarism and academic conduct

When submitting work you are responsible for ensuring that it is fully and correctly referenced in line with the protocols that will have been shared with you at the start of your course. Your work should also be proof read to ensure spelling, punctuation and grammar are as accurate as possible. Please be aware that by submitting your work for assessment, you are confirming that it is authentic and is all of your own work (or that of the group if it is a group work assignment). If you submit in hardcopy this will be written on the front of your sheet, if you submit electronically through Blackboard then the act of uploading the work is taken as your agreement to its authenticity.

All students are required to attend the HEADstart programme, which supports you in your study skills and academic conduct, in particular the HEADstart programme gives you the knowledge to support correct referencing within your academic work and avoid academic offences such as plagiarism. Additionally, guidance and support is fully and freely available from your programme team, the LRC team and on Blackboard within the LRC resources.

If you do not reference correctly and are suspected of committing plagiarism, are suspected of collusion (collaborating with another on independent work) or another academic offence, you will be subject to the College's Malpractice Policy, a full version of which is available on the HE Information site on Blackboard.

13. Submission of assessed work

You must submit all your assessed work by the deadline specified on the assignment; that is the summative deadline. If you do not meet the deadline and do not have any extenuating circumstances (things that have happened over which you have no control and have impacted on your ability to meet the deadline, if you have any of these then there is a form you can submit to make your Course Leader aware as detailed later in the handbook) then you will automatically receive a Fail for that piece of work.

The method of submission will be confirmed on your assignment and by your Unit Tutor/Course Leader when the assessment is released to you.

13.1 Harvard Referencing

You much ensure that you use the correct, Harvard Referencing system in all of your written assignments. You will be given more information during your HEADstart sessions, but please ensure that you speak to your Course Leader or the LRC team if you are in doubt.

13.2 Return of marked work

The College's policy regarding the return of marked work is that, in normal circumstances, you can expect your work to be marked and returned to you within three calendar weeks of the hand-in date. In some exceptional circumstances this may take a little longer but you will be advised if this is the case.

You will receive your work back with an indicative grade for the assessment and some written feedback about your work. Your final grade will be confirmed through the Assessment Board process at the end of the academic year. This feedback is extremely valuable to you as it will show where you can improve next time around. You should always take note and take time to explore written comments in more depth with your Unit Leader.

13.3 Assessment Boards

At the end of each academic year your grades and overall performance will be considered by through the Assessment Board process. The Assessment Board panel will confirm your grades and final outcome for the year. Following the Assessment Board you will notified of the final outcomes by the College and any actions that may be required if you have not achieved sufficient credit to proceed to the next year or to complete your final award. If you have any queries about your results you can contact HE@bridgwater.ac.uk

13.4 Referrals and repetition

If you do not achieve at least a pass grade on your assessed work you may be given the opportunity to resubmit following the Assessment Board. If you do not achieve at least a pass grade on at least half of your credits for the year you may be asked to repeat the year studying and being re-assessed on those units that you have previously failed to achieve before you are allowed to continue to your next stage of study or be awarded your final qualification. Each case is considered individually at the Assessment Board and outcomes will depend on many factors including extenuating circumstances, attendance and the amount of work that needs completing within the timeframes for referral.

13.5 Academic Appeals

An academic appeal is defined as a request for a review of a decision of an academic body charged with decisions on student progression, assessment and awards (normally the Assessment Board, or equivalent). Appeals may be made by individuals only; they may not be lodged by a representative, a parent or any other third party (unless it can be shown that there are good grounds why the student cannot make the appeal him/herself as detailed later in 'How to lodge an appeal').

Where an academic appeal better fits or also fits with the HE Complaints Policy and Procedure, it is possible for the appeal or complaint to be reclassified (at whatever stage they may have reached) and processed under the most relevant regulation or procedure if this is likely to lead to a more appropriate outcome for the person(s) appealing or complaining.

The key principles of this academic appeals process are that academic standards cannot be compromised in any way, this means that:

- There can be no appeal against academic judgement
- Administrative needs must be secondary to ensuring justice and fairness in the decision making process
- Decisions are reached based on only the evidence available to the panel
- This procedure is time-bound, meaning there are deadlines by which appeals must be raised by students and responded to by the College.
- Appeals will be handled in confidence with only staff who need to know being made aware.
- Students will not be disadvantaged if they raise an appeal.
- A student can withdraw their appeal without prejudice.

Bridgwater and Taunton College have developed a clear policy to outline the procedure to follow if you wish to lodge an appeal, a full copy of the Academic Appeals Policy can be found on the HE Info Hub.

Appeals may be raised after the HN Award Board has communicated your outcomes for the academic year. You will need to confirm that you have grounds to appeal the outcome of the Assessment Board and should carefully read the HE Appeals Policy before submitting your claim. All claims must be submitted in writing to the HE Team he@btc.ac.uk, within 10 days of receiving your results. A copy of the HE Academic Appeals policy is available on Blackboard under HE Info Hub, Policies and Procedures.

13.6 Assessment Schedule 2019-20

13.7 Assessment Schedule 2019-20 Civil Engineering HNC

Launch Date	**Formative feedback date(s)** Students may use this to gain initial feedback on their work	**Final hand-in date**	**Date to be returned to student with feedback** (turnaround time is 3 calendar weeks)	**Unit No.**	**Assessment Title**	**Assessment Type** (Assignment, Report, Portfolio, Project, Presentation, Practical skills or Set exercise)	**1st marker**	**2nd marker**
26/09/18	17/10/18	24/10/18	7/11/18	03	Science & Materials	Assignment	Paul Sandford/ Teslim Balogun	Chuks Egbuna
24/10/18	15/11/18	27/11/1	6/12/18	03	Science & Materials	Assignment	Paul Sandford/ Teslim Balogun	Chuks Egbuna
22/11/18	14/12/18	18/12/18	22/12/18	03	Science & Materials	Assignment	Paul Sandford/ Teslim Balogun	Chuks Egbuna
19/09/18	08/11/18	21/11/18	26/12/18	02	Construction Technology	Assignment	Paul Sandford/ Adebusola Ateloye	Blessing Mafimisebi
26/09/18	14/11/18	05/12/18	31/01/18	02	Construction Technology	Assignment	Paul Sandford/ Adebusola Ateloye	Blessing Mafimisebi
07/11/18	19/12/18	09/01/19	30/01/19	02	Construction Technology	Assignment	Paul Sandford/ Adebusola Ateloye	Blessing Mafimisebi
09/01/19	30/01/19	09/02/19	27/02/19	02	Construction Technology	Assignment	Paul Sandford/ Adebusola Ateloye	Adebusola Ateloye
30/01/19	27/02/19	13/03/19	27/03/19	06	Construction Information	Assignment	Maciej Grabowiecki	Paul Sandford
26/02/19	25/03/19	23/04/19	08/05/19	06	Construction Information	Assignment	Maciej Grabowiecki	Paul Sandford

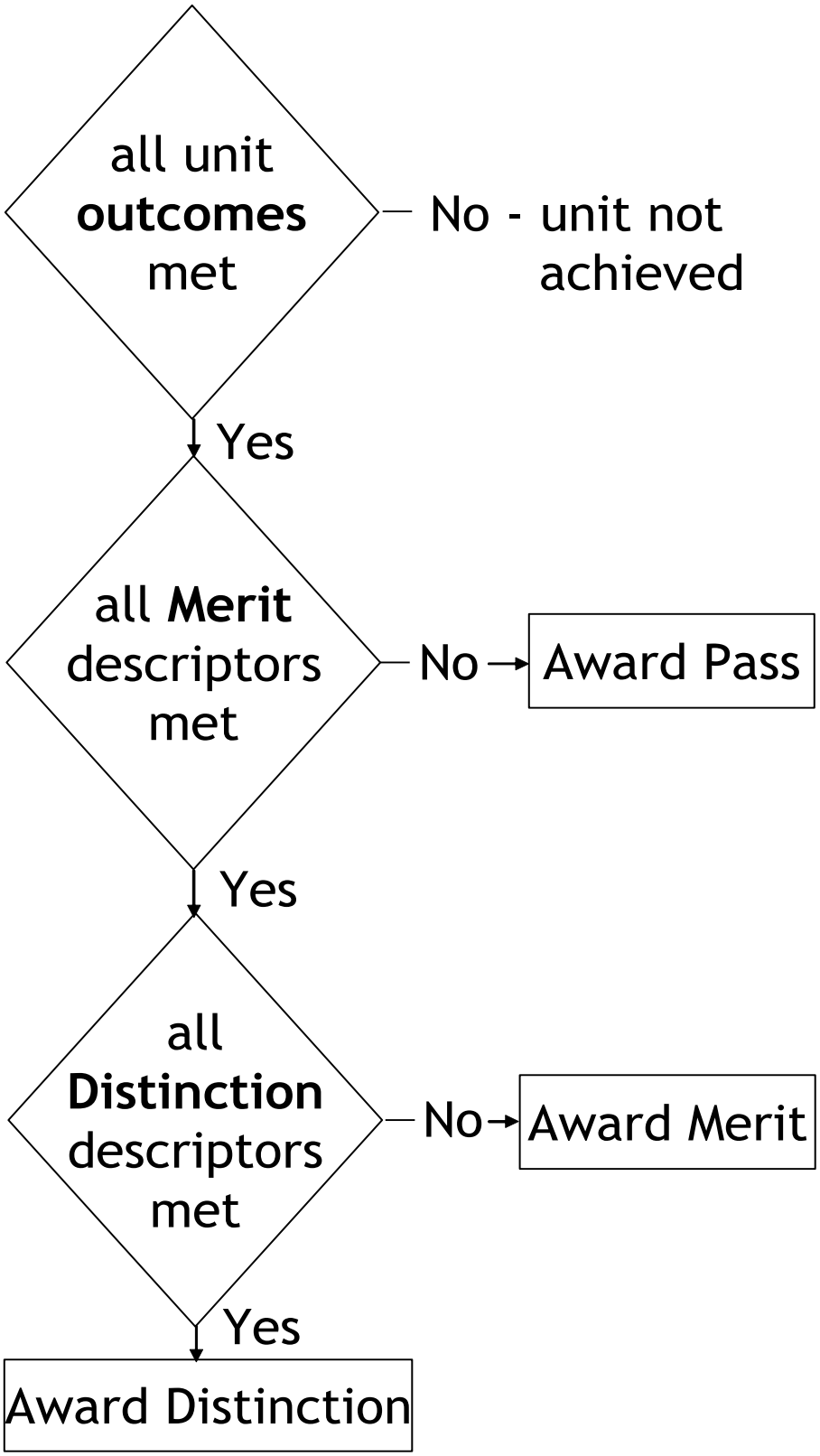
26/03/19	01/05/19	15/05/19	29/05/19	06	Construction Information	Assignment	Maciej Grabowiecki	Paul Sandford
02/05/19	16/05/19	30/05/19	13/06/19	06	Construction Information	Assignment	Maciej Grabowiecki	Paul Sandford
26/09/17	27/02/19	13/03/19	27/03/19	08	Mathematics	Assignment	Chuks Egbuna	TBC
24/10/17	25/03/19	23/04/19	08/05/19	08	Mathematics	Assignment	Chuks Egbuna	TBC
22/11/17	01/05/19	15/05/19	29/05/19	08	Mathematics	Assignment	Chuks Egbuna	TBC
29/09/18	24/11/18	08/12/18	05/01/19	04	Construction Practice & Management	Assignment	Teslim Balogun	Maciej Grabowiecki
03/11/18	01/12/18	05/01/19	19/01/19	04	Construction Practice & Management	Assignment	Teslim Balogun	Maciej Grabowiecki
08/12/18	19/01/19	02/02/19	16/02/19	04	Construction Practice & Management	Assignment	Teslim Balogun	Maciej Grabowiecki
30/01/18	27/02/18	13/03/18	27/03/19	20	Principles of structural Design	Assignment	Chuks Egbuna	Teslim Balogun
26/02/19	25/03/19	23/04/19	08/05/19	20	Principles of structural Design	Assignment	Chuks Egbuna	Teslim Balogun
26/03/19	01/05/19	15/05/19	29/05/19	20	Principles of structural Design	Assignment	Chuks Egbuna	Teslim Balogun
				01	Individual Project	Assignment	Teslim Balogun	Blessing Mafimisebi
26/09/18	17/10/18	24/10/18	7/11/18	13/14	Tender & procurement/BIM	Assignment	Teslim Balogun/ Meciej Grabowiecki	Blessing Mafimisebi
24/10/19	15/11/18	27/11/18	6/12/18	13/14	Tender & procurement/BIM	Assignment	Teslim Balogun/ Meciej Grabowiecki	Blessing Mafimisebi
22/11/18	14/12/18	18/12/18	22/12/18	13/14	Tender & procurement/BIM	Assignment	Teslim Balogun/ Meciej Grabowiecki	Blessing Mafimisebi

Note: Changes in dates or lecturer are likely to occur (these changes are dependent on the lecturer).

13.8 Grading Criteria

Grading Criteria are detailed below to help you understand how your assessments are graded and therefore how you can work towards achieving the best grade possible. Unit outcomes are clearly outlined in the unit specifications later on in the handbook.

Final grading process for units



Pass grade for units

A pass grade is achieved by meeting all the requirements defined in the assessment criteria for pass for each unit.

Merit grade for units

Merit descriptors	Indicative characteristics
In order to achieve a merit the learner must:	The learner's evidence shows:
1. Identify and apply strategies to find appropriate solutions	1. Effective judgements have been made 2. Complex problems with more than one variable have been explored 3. An effective approach to study and research has been applied
2. Select/design and apply appropriate methods/techniques	1. Relevant theories and techniques have been applied 2. A range of methods and techniques have been applied 3. A range of sources of information has been used 4. The selection of methods and techniques/sources has been justified 5. The design of methods/techniques has been justified 6. Complex information/data has been synthesised and processed 7. Appropriate learning methods/techniques have been applied
3. Present and communicate appropriate findings	1. The appropriate structure and approach has been used 2. Coherent, logical development of principles/concepts for the intended audience 3. A range of methods of presentation have been used and technical language has been accurately used 4. Communication has taken place in familiar and unfamiliar contexts 5. The communication is appropriate for familiar and unfamiliar audiences and appropriate media have been used

Distinction grade for units

Distinction descriptors	Indicative characteristics
In order to achieve a distinction the learner must:	The learner's evidence shows:
1. Use critical reflection to evaluate own work and justify valid conclusions	1. Conclusions have been arrived at through synthesis of ideas and have been justified 2. The validity of results has been evaluated using defined criteria 3. Self-criticism of approach has taken place 4. Realistic improvements have been proposed against defined characteristics for success
2. Take responsibility for managing and organising activities	1. Autonomy/independence has been demonstrated 2. Substantial activities, projects or investigations have been planned, managed and organised 3. Activities have been managed 4. The unforeseen has been accommodated 5. The importance of interdependence has been recognised and achieved
3. Demonstrate convergent/lateral/ creative thinking	1. Ideas have been generated and decisions taken 2. Self-evaluation has taken place 3. Convergent and lateral thinking have been applied 4. Problems have been solved 5. Innovation and creative thought have been applied 6. Receptiveness to new ideas is evident 7. Effective thinking has taken place in unfamiliar contexts

13.9 Your Final Award

Awards

Awards are confirmed by the Assessment Board at the end of each academic year. Until such time marks given for your work are unconfirmed and are still subject to final confirmation by the Assessment Board.

On successful completion of the course you will gain the Award of HNC in Construction and The Built Environment (Civil Engineering). If you do not gain the full award you will be given unit accreditation for successful units achieved.

After completing the course, you can progress onto a range of top-up programmes in various Civil Engineering related disciplines. You'll also be equipped with the skills and knowledge to enter employment.

Classification of your final award

Each unit is assigned a Pass, Merit or Distinction grade. Once the unit grades have been confirmed by the College at the Assessment Board the units will be claimed from the awarding body, Pearson. Pearson will calculate the final classification of your overall award and this will be shown on the certificate they accredit you with.

13.10 Student Engagement and the Student Voice

The feedback and the views of our students are incredibly important, students are encouraged to share their opinions at the end of every unit within the units' feedback form, they are also asked to share their views throughout the year though their student representative, via our internal SPQ and through the annual Pearson HN Global student survey. Programme meetings for our HN's are held in both the autumn and spring, students are encouraged to share their views at both meetings and the outcomes are collected as part of our Annual Programme Monitoring. The College works hard to share student views not only on their programme of study but their opinions of the wider College. Recent projects, for example our 'Student Engagement Questionnaire' have helped shaped the HE Common Room and the 'You said, We did' campaign posters are created to show our students how the College is responding directly to their feedback across our 3 sites. Full and further information and documentation about the College's approach to engaging with students is available on the HE Information site on Blackboard where there is also information about becoming a student representative or ambassador for the College.

Students may also decide to participate in the wider HE community, by becoming a member of a club or society, or attending HE events and trips. You can choose to become as involved with the HE community as you wish.

We can only help with a problem, issue or opportunity if you tell us about it.

We will regularly invite and welcome you to voice your thoughts and opinions and there are many ways in which you can do so, both formally and informally:

- Surveys
- Student Forums (via your course representative)
- Tutorials

- Emailing key contacts at the College
- Being involved in programme validations, approvals , revalidations or reviews
- Programme Meetings (via your course representative)

13.11 How your Programme is managed

In order to run the programme effectively the College gives responsibility to a number of systems as described briefly below.

Course Leader and the course team

The Course Leader is responsible, together with the Unit Leaders and appropriate administrative staff, for the day to day operation of your programme of study. Specific responsibilities of the Course Leader include; participating in the timetabling process and allocation of teaching staff to units, giving approval extensions to the submission of student coursework, liaison with the external examiners and the organisation of the assignment calendar.

Programme Meetings

The Course Leader will organise a Programme Meetings throughout the year, normally one per term. At these meetings programme staff and student representatives are present to discuss key issues, reflect on the design of the programme and confirm future arrangements.

External Examiners

Pearson are responsible for externally monitoring the academic standards and quality of this award. As such they appoint External Examiners, on an annual basis, to sample work and review the programme each year. External Examiners visit once a year, normally during May or June and sample student work, marking and feedback to ensure appropriate standards have been met. The External Examiners produce a report at the end of each academic year to which the Course Leader is required to formally respond. The content of the report and response is discussed at Programme Meetings in the presence of the Student Representative. Full reports are available on Blackboard under HE Information for the previous year.

Review

Your programme is subject to continuous review under the College's rigorous quality improvement cycle. Your programme is reviewed on a termly basis by senior management to ensure the quality is maintained and improved where necessary. Student views are a key contributor to this review process and are collected in a variety of ways throughout the year. On an annual basis your programme is subject to a review of the whole year's activities and is included in the College's Self Evaluation.

14. Programme Specification

The programme specification is an overview of the programme as a whole, it explains what you will learn and how you will be assessed throughout your programme.

Your Programme Specification is available on Blackboard within your programme's site and a full outline of the programme specification is also available on the Pearson website.

14.1 Unit Specifications

Unit specifications are available on the following pages and relate specifically to every unit you may study during your time on this programme. Please note that individual units are subject to revision by Pearson so may be updated periodically.

Unit 1: **Individual Project (Pearson-set)**
Unit code: **R/615/1387**
Unit level: **4**
Unit type: **Core**
Credit value: **15**

Aim

The aim of this unit is to support students in using and applying the knowledge and skills they have developed through other areas of their studies to complete and present an individual project. In addition, this unit will provide students with key study skills that will support them in further study.

Unit abstract

This unit will enable students to identify, define, plan, develop and execute a successful project by working through a clear process. They will develop a project brief; outlining a problem that requires a solution, as well as a project specification, the specific requirements of which the final outcome must meet. They will research the problem, undertaking a feasibility study, and consider a range of potential solutions using critical analysis and evaluation techniques to test, select and contextualise their preferred solution. Students will provide a work and time management plan, keeping a diary of all activities, reflecting on their process and their learning throughout the project.

Learning outcomes

On successful completion of this unit a learner will:

- Formulate a project that will provide a solution to an identified problem.
- Manage a project within agreed timescales and specification; documenting the process throughout.
- Evaluate potential project management solutions.
- Produce a project report and deliver a presentation of the final project outcomes.

Unit 1 content

LO1 **Formulate a project that will provide a solution to an identified problem**

- Project identification
- Research methods
- Feasibility Studies
- Brief and specification

LO2 **Manage a project within agreed timescales and specification, documenting the process throughout**

- Resources and resource planning
- Costs and cost planning
- Work plan:
  - Gantt charts
  - Project Evaluation and Review Technique (PERT) charts
  - Critical Path Method (CPM)

- Project tracking:
  - Progress tracking
  - Milestones

LO3 **Evaluate potential project management solutions**

- PERT analysis
- CPM analysis

LO4 **Produce a project report and deliver a presentation of the final project outcomes**

- Report formats
- Presentation techniques

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Formulate a project that will provide a solution to an identified problem	**P1** Select an appropriate construction-based project, giving reasons for your choice. **P2** Identify the main components of a project specification. **D1** Evaluate the relationship between project identification, feasibility and project planning, with consideration of the impact of project scope on time and resources.
LO2 Manage a project within agreed timescales and specification, documenting the process throughout	**P3** Identify potential resources, costs and timescales. **P4** Describe a range of appropriate techniques for generating realistic potential solutions. **M2** Prepare and update a project management plan, using standard systems of time and resource tracking. **D1** Evaluate the relationship between project identification, feasibility and project planning, with consideration of the impact of project scope on time and resources.

LO3 Evaluate potential project management solutions	**P5** Explore project management strategies to determine suitability for a given project. **P6** Justify the selection of your preferred solution, making reference to your initial project specification. **D2** Appraise your own performance in managing the project; draw conclusions and make recommendations that would further improve your performance in the future.
LO4 Produce a project report and deliver a presentation of the final project outcomes	**P7** Produce a written report identifying each stage of the project. **P8** Utilise appropriate forms of referencing and citation in the preparation of a written report. **P9** Prepare a presentation of your final project outcomes, utilising industry standard. **M4** Present your final project outcomes and recommendations to a selected audience. **D2** Appraise your own performance in managing the project; draw conclusions and make recommendations that would further improve your performance in the future.

Unit 2: **Construction Technology**
Unit type: **Core**
Unit code: **Y/615/1388**
Unit level: **4**
Credit value: **15**

Aim

This unit will introduce the different technological concepts used to enable the construction of building elements; from substructure to completion, by understanding the different functional characteristics and design considerations to be borne in mind when selecting the most suitable technological solution.

Unit abstract

The basic principles of construction technology have not changed for hundreds of years. However, the materials and techniques used to achieve these basic principles are constantly evolving; to enable the construction industry to deliver better quality buildings. Scarcity of resources and the continuing demand of more sophisticated clients, end users and other stakeholder interests, are driving the construction industry to provide buildings which facilitate enhanced environmental and energy performance, and greater flexibility, in response to ever increasing financial, environmental, legal and economic constraints. Topics included in this unit are: substructure, superstructure, finishes, building services and infrastructure components. On successful completion of this unit a student will be able to analyse scenarios and select the most appropriate construction technology solution.

Learning outcomes

On successful completion of this unit a learner will:

- 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.
- Identify the different types of civil engineering/infrastructure technology used in support of buildings.
- Illustrate the supply and distribution of a range of building services and how they are accommodated within the building.

Unit 2 content

LO1 **Explain the terminology used in construction technology**

Types of construction activity:
Low, medium and high rise buildings, domestic buildings, for example house, flats and other multi-occupancy buildings, commercial buildings, for example offices and shops, industrial buildings, for example, light industrial and warehouses.

Construction technology terminology:
Loadbearing and non-loadbearing, structural stability, movement and thermal expansion, durability, weather and moisture resistance, aesthetics, fire resistance, sound insulation, resistance to heat loss and thermal transmission, dimensional co-ordination and standardisation, sustainability and scarcity of availability, on-site and off-site construction, legal requirements, buildability, health and safety.

Construction information:
Drawings, specification, schedules, CAD, Building Information Modelling (BIM).

Sustainability:
Supply chain.
Lifecycle.
'Cradle-to-grave'.
'Cradle-to-cradle'.
Circular economies.

LO2 **Describe the different techniques used to construct a range of substructures and superstructures, including their function and design selection criteria**

Pre-design studies:
Desk-top, Site Reconnaissance, Direct Soil Investigation techniques.

Substructure functions and design considerations:
Different methods for gathering disturbed and undisturbed samples, influence of soil type on foundation design, including water and chemical content, potential loads, position of trees and the impact on foundations, economic considerations, legal considerations (health and safety work in excavations), building regulations, plant requirements.

Types of foundations:
Shallow and deep foundations, strip and deep strip foundations, pad foundations, raft foundations, piled foundations (replacement and displacement piles).

Types of superstructure:
Traditional construction, framed construction: steel, composite concrete and steel, timber.
Walls; roofs; structural frames; claddings; finishes; services.

Walls:
External walls: traditional cavity, timber frame, lightweight steel.
Cladding: panel systems, infill systems, composite panel systems, internal partition walls.

Roofs:
Pitched and flat roof systems, roof coverings.

Floors:
Ground floors, intermediate floors, floor finishes.

Staircases:
Timber, concrete, metal staircases, means of escape.

Finishes:
Ceiling, wall and floor finishes.

LO3 **Identify the different types of civil engineering/infrastructure technology used in support of buildings**

Site remediation and de-watering:

- Contamination management: cut-off techniques, encapsulation.
- Soil remediation: stone piling, vibro-compaction.
- De-watering: permanent sheet piling, secant piling, grout injection freezing, temporary techniques, such as pumping, wells, electro-osmosis.

Substructure works:
Basement construction: steel sheet piling, concrete diaphragm walls, cofferdams, caissons, culverts.

Superstructure works:
Reinforced concrete work: formwork, reinforcement, fabrication, concrete, steel.

LO4 **Illustrate the supply and distribution of a range of building services and how they are accommodated within the building**

Primary service supply
Cold water, gas, electricity.

Services distribution
Hot and cold water, Single phase and 3-phase electricity, air conditioning ductwork.

Services accommodation:
Raised access flooring, suspended ceilings, partitioning, rising ducts.

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Explain the terminology used in construction technology	**P1** Describe the differences between residential, commercial and industrial buildings. **P2** Explain how the functional characteristics and design selection criteria are informed by proposed building use. **P3** Discuss the ways in which sustainability can be promoted in building projects. **M1** Apply the terminology used in construction technology to a given building construction project. **D1** Evaluate how the functional characteristics and design selection criteria impact on the eventual design solution
LO2 Describe the different techniques used to construct a range of substructures and superstructures, including their function and design selection criteria	**P4** Describe the predesign studies carried out and types of information collected for a given construction site. **P5** Explain the functional characteristics and design criteria for primary and secondary elements of a building substructure and Super-structure. **M2** Analyse how site conditions impact on the design of foundations. **M3** Illustrate how the component parts of an element allow it to fulfil its function. **D2** Prepare a design report identifying superstructure, substructure and civil engineering structures necessary for a given building construction project.
LO3 Identify the different types of civil engineering/infrastructure technology used in support of buildings	**P6** Describe techniques used for remediating the site prior to construction commencing. **P7** Describe the types of substructure works carried out by **D2** Prepare a design report identifying superstructure, substructure and civil engineering structures necessary for a given building construction project.
LO4 Illustrate the supply and distribution of a range of building services and how they are accommodated within the building	**P8** Describe the supply arrangements for primary services. **P9** Explain the distribution arrangements for primary services. **D3** Appraise how the distribution of the primary services impact on the overall design of the building.

Unit 3: **Science & Materials**
Unit code: **D/615/1389**
Unit type: **Core**
QCF level: **4**
Credit value: **15**

Aim

This unit aims to support students to make material choices to achieve the desired outcomes of a brief. This is approached from the perspective of materials being fit for purpose; as defined by testing standards and properties, but also by consideration of the environmental impact and sustainability. Awareness of health & safety is considered alongside the need to meet legislative requirements.

Unit abstract

Science and material performance are intrinsically linked through the need to create structures and spaces that perform in both mechanical operation and in providing human comfort.

The topics covered in this unit include: health & safety; storage and use of materials; handling, and problems associated with misuse and unprotected use; environmental and sustainable consideration in material choices; and human comfort performance parameters. Material choice is developed through the understanding of testing procedures to establish conformity to standards and define performance properties. The performance of materials to satisfy regulations and provide appropriate comfort levels is addressed through design and calculations.

Upon successful completion of this unit students will be able to make informed decisions regarding material choices; based on understanding the structural behaviour of materials established through recognised testing methods, sustainability, context of build, and health & safety. Students will also be able to perform the calculations necessary to establish anticipated performance of the materials in-use and therefore determine their compliance with regulations and suitability.

Learning outcomes

On successful completion of this unit a learner will:

- Review health and safety regulations and legislation associated with the storage, handling and use of materials on a construction site.
- Discuss the environmental and sustainability factors which can impact on and influence the material choices for a construction project.
- Present material choices for a given building using performance properties, experimental data, sustainability and environmental consideration.
- Evaluate the performance of a given building in respect of its human comfort requirements.

Unit 3 content

LO1 **Review health and safety regulations and legislation associated with the storage, handling and use of materials on a construction site**

Regulations and guidance:

- Health & safety management regulations.
- Design management regulations.
- Provision and use of equipment regulations.
- Control and management of hazardous materials through storage, movement and use.

Materials handling and installation:

- Risk assessments and method statements (qualitative and quantitative).
- Materials storage: moving materials safely; working in confined spaces; working at height.
- Occupational health risks associated with materials: asbestos-related and respiratory disease; dermatitis and skin problems; musculoskeletal disorders; hand arm vibration.
- Personal Protective Equipment (PPE).

LO2 **Discuss the environmental and sustainability factors which can impact and influence the material choices for a construction project**

Environmental considerations:

- Lifecycle assessment.
- Environmental profile methodology.
- Environmental product declaration and certification.
- Embodied energy.
- Waste management: the economics and technologies of construction waste disposal.

Sustainability:

- Resource availability and depletion: renewable and non-renewable materials.
- Reuse and recycling of construction and demolition waste.
- Waste and Resources Action Programme (WRAP).

Environmental assessment methods:

- Building Research Establishment Environmental Assessment Method (BREEAM).
- Leadership in Energy and Environmental Design (LEED).
- Green Star.
- Estidama, or other forms of environmental assessment.
- Construction Industry Research Information Association.

LO3 **Present material choices for a given building using performance properties, experimental data, sustainability and environmental consideration**

Material testing:

- Testing methods, interpreting test data.
- Codes and standards.

Structural behaviours:

- Performance properties: strength, elasticity, toughness, hardness, creep, fatigue, porosity, brittleness, density, thermal conductivity, durability.
- Inherent material properties.

Relationship between material properties, behaviour and use.

LO4 **Evaluate the performance of a given building in respect of its human comfort requirements**

Human comfort provision:

- Indoor environmental quality: thermal, illumination, sound, ventilation.
- Thermal losses and gains.
- Passive and active design: design solutions, environmental benefit vs implementation cost.
- Calculations of u-values, lux levels, acoustic and ventilation.

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Review health and safety regulations and legislation associated with the storage, handling and use of materials on a construction site	**P1** Explain how regulations impact on the use, storage and handling of a selection of vocationally typical construction materials. **M1** Assess how risk assessments can be used to address significant hazards posed by selected materials or activities. **D1** Discuss how multiple regulations and legislation would apply to a given site activity, highlighting how to plan and manage for safe handling and use.
LO2 Discuss the environmental and sustainability factors which impact on and influence the material choices for a construction project	**P2** Explain material environmental profiling and lifecycle assessment. Use a relevant material to exemplify your explanation. **P3** Discuss the benefits of product declaration and environmental certification. **M2** Produce a waste management plan for a given project, taking into account a typical range of relevant waste materials. **D2** Illustrate how the use of sustainable practices and considerations for material choice can improve the environmental rating of the completed building.
LO3 Present material choices for a given building using performance properties, experimental data, sustainability and environmental consideration	**P4** Present the results of relevant testing procedures to identify performance characteristics of selected construction materials. **P5** Discuss the results in terms of the material properties and regulatory requirements, highlighting any unexpected results and why these may occur. **P6** Select construction materials for a given building based upon their performance properties in use. **M2** Produce a waste management plan for a given project, taking into account a typical range of relevant waste materials. **D2** Illustrate how the use of sustainable practices and considerations for material choice can improve the environmental rating of the completed building.
LO4 Evaluate the performance of a given building in respect of its human comfort requirements.	**P7** Define a material selection strategy with regard to human comfort requirements. **P8** Identify materials for a selected area within a building and explain how these contribute to a balanced indoor environment. **M4** Perform calculations which relate to a selected area (lux levels, u-values, acoustic and ventilation). **D3** Evaluate how the use of passive or active strategies can minimise energy, materials, water, and land use.

Unit 4: **Construction Practice & Management**
Unit code: **R/615/1390**
Unit type: **Core**
Unit level: **4**
Credit value: **15**

Aim

The aim of this unit is to develop and provide students with a holistic understanding of construction practice and management processes. Students will investigate and research the modern construction industry, both from the practical skills embedded within the industry through to its linkage with development on-site and the connection with construction management; including roles within the industry.

Unit abstract

The unit compares and investigates small, medium and large construction companies within the market place and how construction processes, for development, have evolved.

Students will also explore how health & safety has evolved within the industry, including how the major stakeholders, from companies to site operatives, have embedded health & safety into their preferred areas of development and careers. In addition, students will explore Building Information Modelling and how it fits into construction processes/sequences ranging from domestic to large-scale and design and build projects.
The knowledge from this unit will provide students with the understanding of modern construction and management; the skills, management of people and projects, and how health & safety have changed the perception of the construction industry.

Learning outcomes

On successful completion of this unit a learner will:

- Describe the construction industry with reference to company structures and other activities.
- Explain different types of construction companies in the market and their relationships within the tendering process.
- Discuss the key stages in a construction project, and how Building Information Modelling informs the different stages.
- Analyse how the construction industry has developed suitable collaboration strategies in support of greater recognition of health & safety.

Unit 4 content

LO1 **Describe the construction industry with reference to company structures and other activities**

Understanding of the construction industry:

- Historical development of the construction industry.
- Professional and other institutes, including societies.
- Links between professional, technical and skills professionals.
- Contractor and head office structure.
- Site structure and organisation.
- Types of contractual work tendered by companies.

LO2 **Explain different types of construction companies in the market and their relationships within the tendering process**

Company types:

- Professional relationships between companies.
- Contract tendering.
- Tender process.

LO3 **Discuss the key stages in a construction project, and how Building Information Modelling informs the different stages**

- Master programmes and contract planning techniques.
- The role of Building Information Modelling (BIM) on the construction.
- Modern procurement methods within construction.
- Sustainability.

LO4 **Analyse how the construction industry has developed suitable collaboration strategies in support of greater recognition of health & safety**

- Key stakeholders in the construction process.
- BIM and collaboration.
- Health & safety within the construction industry:
- Pre-construction regulations and legislation.
- Site safety.

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**

LO1 Describe the construction industry with reference to company structures and other activities	**P1** Explain how the construction industry has developed and encompassed professionalism within its structures. **P2** Demonstrate the scope and linkage between all parties within a construction organisation. **P3** Identify the type of contractual work tendered by contractors **M1** Analyse how the construction industry has developed overall in terms of company structures, its employees and contracted work. **D1** Critically evaluate how construction companies have developed their structure and business ethos.
LO2 Explain different types of construction companies within the market and their relationships within the tendering process	**P4** Identify the different types of construction companies in the market. **P5** Explain the relationship between different construction organisations which connects construction companies, including contracts and tendering. **M2** Analyse the catalyst which connects construction companies, including contracts and tendering. **D2** Compare the main factors which differentiate between construction companies, contracts and tendering.
LO3 Discuss the key stages in a construction project, and how Building Information Modelling informs the different stages	**P6** Identify, with examples, modern construction processes and sequences used within today's industry, highlighting the way they respond to sustainability needs. **P7** Explain contract planning techniques used within micro and macro projects. **P8** Identify where BIM impacts upon operations and construction companies. **M3** Analyse how construction has developed in terms of innovation, designs, and within contracts for micro and macro projects, and the interrelationship with BIM. **D3** Provide a detailed analysis of how the construction industry has evolved in terms of innovative construction methods and contracts.
LO4 Analyse how the construction industry has developed suitable collaboration strategies in support of greater recognition of health & safety	**M4** Demonstrate how the construction industry has benefited through changes in health & safety legislation. **D4** Evaluate the impact of health & safety legislation, how it has evolved the drivers for it, and its advantages or weaknesses within construction.

Unit 6: Construction Information (Drawing, Detailing, Specification)
Unit code: D/615/1392
Unit level: 4
Credit value: 15

Aim

Through this unit students will develop their awareness of different types of construction information and their uses in the process. Students will engage in the production, reading and editing of construction information, in order to understand how this information informs different stages of the process. Using industry standard tools and systems, students will consider the ways that information may be shared and, through this, the value of collaboration in the information process.

Unit abstract

To achieve successful projects in the built environment requires a range of different types of information: to describe the project, quantify the materials, provide clear instructions for assembly and erection, and to allow for accurate costing and management. Throughout the process of design, construction and post-occupancy management, information is critical.
Topics included in this unit are: construction drawing, detailing, Computer Aided Design (CAD), Building Information Modelling (BIM), schedules (door, window, hardware, etc.), specifications, schedules of work, bills of quantities and
information distribution and collaboration.

Learning outcomes

On successful completion of this unit a learner will:

- Evaluate different types of construction information in the context of diverse project types.
- Develop construction drawings, details, schedules and specifications in support of a given construction project.
- Interpret different types of construction information in order to explain a construction project.
- Assess ways in which construction professionals collaborate in the production of construction information.

Unit 6 content

LO1 **Evaluate different types of construction information in the context of diverse project types**

- Construction drawings
- Site plans
- Floor plans, roof plans, ceiling plans
- General arrangement
- Elevations
- Assembly drawings
- Component drawings/details
- Schedules
- Door schedules
- Window schedules
- Hardware schedules
- Specifications
- Performance specification
- Outline specification
- Full specification
- Specification templates/standards

LO2 **Develop construction drawings, details, schedules and specifications in support of a given construction project**

- Computer Aided Design (CAD)
- Templates
- Title blocks
- Annotation
- Building Information Modelling (BIM)
- Specification software
- Bills of quantities
- Schedules of works

LO3 **Interpret different types of construction information in order to explain a construction project**

- Reading construction drawings.
- Information co-ordination.
- Clash detection.
- 'Red-lining'.

LO4 **Assess ways in which construction professionals collaborate in the production of construction information**

- Project roles
- Information production
- Hierarchy of roles and information
- Project collaboration
- Document sharing/distribution
- Online/cloud-based collaboration
- Building Information Modelling (BIM)

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Evaluate different types of construction information in the context of diverse project types	**P1** Explain the use of construction information in the context of a project. **P2** Describe the different types of construction information and their uses. **M1** Compare different types of construction information to identify their suitability in specific contexts. **D1** Justify the use of specific types of construction information in support of a given project.
LO2 Develop construction drawings, details, schedules and specifications in support of a given construction project	**P3** Develop a set of general arrangement drawings, selected details and door/window schedules. **P4** Produce an outline bill of quantities. **M2** Compose a schedule of works. **D1** Justify the use of specific types of construction information in support of a given project.
LO3 Interpret different types of construction information in order to explain a construction project	**P5** Relate a set of construction drawings to a specification. **P6** Evaluate construction drawings and details to identify 'clashes'. **M3** Critique a body of construction information, identifying errors and discrepancies. **D2** Propose corrections to construction drawings and specifications using industry standard forms of notation.
LO4 Assess ways in which construction professionals collaborate in the production of construction information	**P7** Assess the types of information produced by different participants in a construction project. **P8** Examine the relationship between different bodies of information and how they work in conjunction. **M4** Compare the roles of CAD and BIM in the collaborative production of construction information. **D2** Propose corrections to construction drawings and specifications using industry standard forms of notation.

Unit 7: Surveying, Measuring & Setting Out
Unit code: H/615/1393
Unit level: 4
Credit value: 15
Unit type: Optional

Aim

This unit explores the techniques used to set up controls and conduct topographic surveys. It also covers communication of results and methods of Setting-out structures.

Unit abstract

Infrastructure and new buildings are essential requirements of modern life. In both construction and civil engineering there is a need to conduct initial surveys to assist the design team in establishing a clearly defined starting point. Once designed, the priority becomes to 'set out' the structures to the required accuracy to facilitate the construction process. Finally, 'as built' surveys are necessary to assist future maintenance and improvements to the built asset.

On successful completion of this unit students will be able to set up and assess the accuracy of control points. From these or any other control points the students will be able to complete a topographic survey or set out a structure. The students will also be able analyse errors in Setting-out and surveying.

Learning outcomes

On successful completion of this unit a learner will:

- Undertake a survey to establish a station network for horizontal and vertical control
- Explain the process of undertaking a topographic survey
- Apply industry standard techniques in the production, transferring and staking out of co-ordinates of multiple construction elements
- Prepare a report on the causes of errors and techniques to improve accuracy, including the use of digital data.

Unit 7 content

LO1 Undertake a survey to establish a station network for horizontal and vertical control

Description of types of control points
Primary controls, first and second order Secondary control
Different methods of marking control points
The use of local, national and grid control available
Conducting a closed traverse
Carrying out a full closed traverse survey for horizontal and vertical controls
Methods for checking accuracy of the traverse
Matching the control station accuracy to national standards or recommendations
Calculations to obtain corrected co-ordinates

LO2 Explain the process of undertaking a topographic survey

Purpose of a topographic survey
Links to initial control
Techniques to communicate a completed survey
Cut and fill information obtained from a survey
Methods of completing a topographic survey
Equipment to be used to capture topographic details
Use of free station and GPS to complete the survey
Coding systems for features to be surveyed
Data transfer techniques.

LO3 Apply industry standard techniques in the production, transferring and staking out of co-ordinates of multiple construction elements

Examples of construction elements:
Building outlines, centre lines of structural elements, boundary locations from national co-ordinates, road centre lines, drainage and hard landscape features.

Setting-out techniques:
Holistic view of setting from the whole to the part Use of free station, reference lines, stake out, tie distances within a total station program

Techniques to obtain Setting-out data, including data transfer:
Process of Setting-out structures and offsetting lines of structural elements Horizontal and vertical control of construction, both initially and as the work commences.

LO4 Prepare a report on the causes of errors and techniques to improve accuracy, including the use of digital data

Errors in surveying and Setting-out:
Instrumentation error: prism constants, reflector heights, atmospheric influences, calibration certification, free station errors, discrete Setting-out
Human errors: alignment of levelling staffs and hand- or tripod-mounted prisms, physical Setting-out constraints

Improvement of accuracy:
Use of technology to provide checking methods
Testing procedures for instrumentation to be used in
Setting-out and surveying
Comparing accuracy of set out element to nationally recognised standards.

Learning outcomes and assessment criteria

Pass	Merit	**Distinction**
LO1 LO1 Undertake a survey to establish a station network for horizontal and vertical control		**LO1 and LO2** D1 Assess the accuracy of a network in the production of

P1 Describe the types of control networks that are available for surveying, including examples of local and national stations **P2** Carry out a closed traverse survey of a network, including at least five stations **P3** Calculate corrected coordinates and heights for the stations and explain the stages used	**M1** Calculate and compare the accuracy achieved in a closed traverse survey	a topographic survey a competitive tender.
LO2 Explain the process of undertaking a topographic survey		
P4 Explain the process of conducting a topographic survey for a given plot of land, including initial control **P5** Describe, with examples, common coding systems and data exchange processes, including communicating final outcomes	**M2** Review the content of a topographic survey, including analysis of its suitability to assist the design team in completing the design	

Pass	Merit	Distinction
LO3 Apply industry standard techniques in the production, transferring and staking out of co-ordinates of multiple construction elements		**D2** Analyse both the accuracy achieved and the techniques used during the practical exercise
P6 Extract and transfer the required data from a given project to a total station in order to allow Setting-out to commence **P7** Complete a full Settingout operation on a given project by utilising a total station free station programme, including both horizontal and vertical control and explain the stages used	**M1** Analyse the accuracy achieved from a Settingout operation from tie distances recorded, total station stored data and another means	
LO4 Prepare a report on the causes of errors and techniques to improve accuracy, including the use of digital data.		**D3** Analyse the techniques used to improve accuracy, including the implication of Setting-out errors and the

P8 Prepare a report on the common causes of errors in both Setting-out and surveying **P9** Compare the accuracy of Setting-out data to national standards	**M2** Evaluate the causes of errors in surveying, Setting-out and data transfer	application of industry standard technology/software

Unit 8: Mathematics for Construction
Unit code: J/617/6366
QCF level: 4
Credit value: 15

Aim

The aim of this unit is to develop students' skills in the mathematical principles and theories that underpin the Construction, Civil Engineering and Building Services curriculum. Students will be introduced to mathematical methods and statistical techniques in order to analyse and solve problems within a construction engineering context.

Unit abstract

Topics included in this unit are: trigonometry and algebraic mathematical techniques; matrices; statistical techniques; differential and integral calculus, binomial and normal distribution; dimensional analysis, arithmetic progressions; vector analysis.

On successful completion of this unit students will be able to employ mathematical methods within a variety of contextualised examples; use analytical and computational methods to evaluate and solve engineering construction problems; interpret data using statistical techniques and apply calculus techniques. Students will gain crucial employability skills such as critical thinking, problem solving, analysis, reasoning, and data interpretation.

Learning outcomes

On successful completion of this unit a learner will:

By the end of this unit students will be able to:

- Use analytical and computational methods to solve construction related problems
- Investigate applications of statistical techniques to interpret, organise 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 examples.

Unit 8 content

LO1 **Identify the relevance of mathematical methods to a variety of conceptualised construction examples**

- Mathematical concepts.
- Dimensional analysis.
- Arithmetic and geometric progressions.
- Functions.
- Exponential, logarithmic, circular and hyperbolic functions.

LO2 **Investigate applications of statistical techniques to interpret, organise and present data by using appropriate computer software packages**

- Summary of data.
- Mean and standard deviation of grouped data.
- Pearson's correlation coefficient.
- Linear regression.
- Probability theory.
- Binomial and normal distribution.
- Hypothesis testing for significance.

LO3 **Use analytical and computational methods for solving problems by relating sinusoidal wave and vector functions to their respective construction applications**

- Sinusoidal waves.
- Sine waves and applications.
- Trigonometric and hyperbolic identities.
- Vector functions.
- Vector notation and properties.
- Representing quantities in vector form.
- Vectors in three dimensions.

LO4 **Illustrate the wide-ranging uses of calculus within different construction disciplines by solving problems of differential and integral calculus**

- Differential calculus.
- Differentiation of functions.
- Stationary points.
- Rates of change.
- Integral calculus.
- Definite and indefinite integration.
- Integrating to determine area and common functions.
- Integration by substitution.
- Exponential growth and decay.

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Identify the relevance of mathematical methods to a variety of conceptualised construction examples	**P1** Apply dimensional analysis techniques to solve complex problems. **P2** Generate answers from contextualised arithmetic and geometric progressions. **P3** Determine the solutions of equations using exponential, trigonometric and hyperbolic functions. **M1** Apply dimensional analysis to derive equations. **D1** Present statistical data in a method that can be understood by a nontechnical audience.
LO2 Investigate applications of statistical techniques to interpret, organise and present data by using appropriate computer software packages	**P4** Summarise data by calculating mean and standard deviation, and simplify data into graphical form. **P5** Calculate probabilities within both binomially distributed and normally distributed random variables. **M2** Interpret the results of a statistical hypothesis test conducted from a given scenario. **D1** Present statistical data in a method that can be understood by a nontechnical audience.
LO3 Use analytical and computational methods for solving problems by relating sinusoidal wave and vector functions to their respective construction applications	**P6** Solve construction problems relating to sinusoidal functions. **P7** Represent construction quantities in vector form, and apply appropriate methodology to determine construction parameters. **D2** Model the combination of sine waves graphically and analyse the variation between graphical and analytical methods.
LO4 Illustrate the wide-ranging uses of calculus within different construction disciplines by solving problems of differential and integral calculus	**P8** Determine rates of change for algebraic, logarithmic and circular functions. **P9** Use integral calculus to solve practical problems relating to engineering. **M4** Formulate predictions of exponential growth and decay models using integration methods. **D3** Analyse maxima and minima of increasing and decreasing functions using higher order derivatives.

Unit 20: Principles of Structural Design
Unit code: R/615/1406
Unit level: 4
Credit value: 15
Unit Type: Core

Aim

This unit explores the fundamental principles of structural design, codes of practice and standards required to construct safe, effective static civil engineering structures commonly used in today's infrastructure projects.

Unit abstract

Buildings, bridges, roads, and many other types of man-made structures are critical to the economic and social well-being of our societies. We rely upon these structures to provide us with suitable spaces and infrastructure to support our daily lives.
Topics included in this unit are: methods and techniques used to determine bending moments and shear forces in simply supported steel and reinforced concrete beams; deflection in simply supported steel beams; and axial load carrying capacity of steel and reinforced concrete columns.
On successful completion of this unit students will be able to determine and analyse forces within fixed structures and understand the fundamental concepts of structural design.

Learning outcomes

On successful completion of this unit a learner will:

- Calculate bending moments and shear forces for simply supported steel and concrete beams.
- Determine deflection for simply supported steel beams.
- Calculate the axial load carrying capacity of steel and reinforced concrete columns.
- Explore design methods for steel, reinforced concrete beams and columns.

Unit 20 content

LO1 **Calculate bending moments and shear forces for simply supported steel and concrete beams**

Loading:

- Dead loads
- Live loads
- Wind loads
- Point loads
- Uniformly distributed loads

Elasticity and plasticity of common construction materials:

- Factors of safety
- Building regulations
- Health and safety regulations

Bending moments:

- Bending moment diagrams

Shear forces:

- Shear force diagrams

LO2 **Determine deflection for simply supported steel beams**

- Deflection in supported beams with point loads.
- Deflection in supported beams with uniformly distributed loading.

LO3 **Calculate the axial load carrying capacity of steel and reinforced concrete columns**

Axial loading:

- Steel columns
- Reinforced concrete columns
- Foundations

Slenderness ratio
Effective length
Material properties
Corrosion resistance
Weathering

LO4 **Explore design methods for steel, reinforced concrete beams and columns**

Limit state design:

Steel:

- Beam design and selection
- Column design and selection

Reinforced concrete:

- Beam design and selection
- Column design and selection

Building Information Modelling for structures

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Calculate bending moments and shear forces for simply supported steel and concrete beams	**P1** Determine the following by calculations and diagrams: bending moments and shear force in simply supported steel beams with point loads and uniformly distributed loads. **P2** Discuss the statutory requirements to ensure safety in structural designs. **M1** Produce valid factors of safety for live loads, dead loads and imposed loads using current codes of practice and building regulations. **D1** Evaluate how maximum bending moments determine steel beam selection using current codes of practice and approved documents in terms of economics and safety.
LO2 Determine deflection for simply supported steel beams	**P3** Determine deflection in simply supported steel beams with point loads and a uniformly distributed load. **P4** Explain how deflection in beams affects structural stability. **M2** Analyse different support methods and their effect on deflection in fixed structures. **D2** Assess the most effective support method for a given scenario, in terms of ease and speed of construction, economics, safety and environmental factors.
LO3 Calculate the axial load carrying capacity of steel and reinforced concrete columns	**P5** Describe the concepts of slenderness ratio and effective length. **P6** Determine the axial load carrying capacity of steel columns and reinforced concrete columns. **M3** Analyse the load carrying capacity, size, weight and corrosion resistance properties of different materials used for beams and columns in fixed structures. **D2** Assess the most effective support method for a given scenario, in terms of ease and speed of construction, economics, safety and environmental factors.
LO4 Explore design methods for steel, reinforced concrete beams and columns	**P7** Develop a design solution, including beam design and column design, for a given scenario. **P8** Produce drawings and specifications in support of a structural design solution. **M4** Evaluate the use of an alternative material in achieving a design solution, discussing the benefits or challenges associated. **D3** Assess the use of Building Information Modelling in the production of accurate structural design information and the collaborative environment of structural design.

15. How to access Bridgwater and Taunton College IT Facilities remotely

IT resources can be accessed when you're not in College by going to the College's website at:

https://remote.btc.ac.uk/RDWeb/webclient/index.html

This will take you to a page where you can link to Blackboard, email, the LRC Heritage System, Remote Desktop or contact the IT Support Team.

Remote Desktop will allow you to log into your College account when you are away from the campus. To do this follow the link above and choose 'Remote Desktop'. Then you can log in as instructed. If you experience any issues, which there can be from time to time depending on the system you are using at home and connection speeds, there is a help link when you first go to the Remote Desktop or you can contact the IT Support Team who can help with all IT related queries such as:

- Logging on
- ID cards
- Printing issues
- Loaning equipment

Their contact email address is listed within the key contacts section of this handbook.

16. Progression opportunities

Students that successfully complete the HNC Construction and the Built Environment, Civil Engineering, may decide to top-up to an HND. Students on an HND may decide to progress on to a BSc (Hons). If you are considering further study opportunities then you should first speak to your tutor who will be able to inform you of any upcoming progression events.

17. Complaints

We would always hope that you try and resolve any concerns you have or challenges you face with the member of staff most connected to the issue. This is often the best way to resolve an issue as it can be addressed very quickly. There may be times when you do not feel that your concern has been addressed previously to your satisfaction or that it is not appropriate to raise as an informal concern. If you wish to formally complain about any aspect of your experience as a student at the College please refer to the College's HE Complaints procedure which is available on Blackboard via the HE Info Hub or on request from the HE Team via HE@bridgwater.ac.uk.

18. Health & Safety Information

All employees, employers and students have a legal duty to take reasonable care of their own health, safety and welfare as well as those who may be affected by their activities or omissions.

In accordance with the Health and Safety at Work Act (1974) and as supported by the Management of Health and Safety at Work Regulations (1992) employers are required to ensure the health and safety of their employees or equivalent at work, so far as is reasonably practicable.

The Management of Health and Safety at Work Regulations (1992) and other subsidiary legislation expands on these provisions by requiring employers to:

- undertake risk assessments of any hazards associated with the student's workplace and work activities
- provide relevant information, instructions and supervision to the student
- co-operate and co-ordinate health and safety matters with other employers sharing the workplace.

If you identify a Health & Safety concern whilst on the College site please talk to your Course Leader in the first instance or, if they are unavailable, please raise the issue directly with our Health & Safety Team either by email healthandsafetyteam@btc.ac.uk or by telephone: 01278 455454 Ext – 1252/1273.

APPENDIX 1

Extenuating Circumstances

Request for Assignment Extension

Please consult the guidance on completing this form, any incorrectly completed forms may invalidate your request for extension.

Student Name		**Programme Title**	

For completion by the student - You can use this to request an assignment extension (which must be submitted to the **Course Leader** ahead of the deadline)					**For completion by the Course Leader**		
Unit Title	**Assessment Title**	**Original hand in date**	**I am unable to meet the deadline because of the following circumstances:**	**EVIDENCE IS REQUIRED:** Please state the type of evidence submitted e.g. Medical or Death certificate, G.P Letter. Evidence will be treated in a confidential manner	**Reasons for extension are valid and copy of evidence held by the Course Leader? Y/N**	If reasons are valid **the new agreed deadline is:**	**Signature of Course Leader**

APPENDIX 2

Extenuating Circumstances

Request for Assessment Board Consideration

Please consult the guidance on completing this form, any incorrectly completed forms may invalidate your request for exam board consideration.

Student Name		**Programme Title**	

For completion by the student - You can use this to request that your circumstances are taken into account by the Assessment Board at the end of the year for all assessments you list as being affected during the year (which must be submitted to the **Course Leader** at least 10 working days prior to the Preliminary Board)			**For completion by the Course Leader –** If a student wishes circumstances to be considered by the Preliminary Board and Assessment Board please ensure you bring this form and supporting evidence.		
Unit Title	**I am unable to meet the deadline and/or feel marks for the listed units may have been affected due to the following circumstances:**	**EVIDENCE IS REQUIRED:** Please state the type of evidence submitted e.g. Medical or Death certificate, G.P Letter. Evidence will be treated in a confidential manner	**Reasons for board consideration are valid and copy of evidence held by the Course Leader? Y/N**	**Proposed circumstances grading e.g. 0,1,2,3**	**Signature of Course Leader**