

# BTEC Level 3 Diploma In Engineering

2024-25  
NENG004F1B

**Northbrook College  
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NAME: \_\_\_\_\_

# **WELCOME**

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## **Welcome to Northbrook College**

Chichester College Group

We know how daunting it can be starting a new course, so here is a course guide to help you feel more settled in your new surroundings. The course team sincerely hope you will enjoy your time here and use the course and College to launch yourself into a successful career. You will also receive a Student information guide (SIG) that should be read in conjunction with this guide

Please feel free to come and discuss with any member of the team, any aspect of the course whether it be good or bad. We are continuously striving to improve the quality of the course and we always welcome student feedback as an important part of this process.

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## 1. Edexcel BTEC

Your course is a BTEC L3 in Engineering.  
So what is a BTEC?

BTEC stands for Business & Technology Education Council, it grew out of the merger in 1983 of the Technician Education Council and the Business Educations Council to form the awarding body called BTEC. Later In 1996 BTEC and the London Examinations merged to form Edexcel. Edexcel, which is now part of Pearson PLC, is a term combining the words **E**ducation & **E**xcellence. It is Edexcel who are the awarding body for the qualification you are studying, and will issue your Certificate at the end of the course.

BTECs are developed in consultation with employers and higher education experts, so they can trust that anyone with a BTEC will demonstrate the high standards of knowledge, practical skills and understanding required for further study and employment.

BTECs are work-related qualifications for learners taking their first steps into employment, progressing through their careers or planning to enter university.

On successful completion of the course you will be awarded a certificate of achievement as well as your BTEC Certificate. This certificate of achievement is a record of the subjects you have taken and the grades attained, i.e. Pass Merit or Distinction.

## **2.0 Department of Technology**

### **2.1 Course Team**

#### **Electrical & Electronics Engineering**

##### Subject tutors

#### **Mechanical Engineering**

##### Tim Williams

13 years industry experience, as a craftsman manufacturing parts and components for everything from nuclear submarines to Disneyland Paris.

19 years teaching experience in, delivering engineering study programmes from Entry 3 up to Level 5, specialist areas manufacturing, welding and fabrication.

##### Glyn Lewis

15 years industry experience – 17 years teaching experience in Mechanical Engineering, CNC and Drawing to level 3

##### Phil Beckett (Specialist Technician)

Over 40 years of experience in industry and education. Phil is a vastly experienced engineer, and tool maker.

### **3 Course Structure**

#### **3.1. Course Structure - Units**

During the two years you will be studying the following units;

#### **Full Time**

#### **Year 1 - NENG004F1B**

31706H (1)	Engineering Principles
31708H (3)	Engineering Product Design And Manufacture
31709H (4)	Applied Comm & Quality Principles In Eng
31707H (2)	Deliv Of Eng Processes Safely As A Team
31737H (19)	Electronic Devices And Circuits
31736H (21)	Electronic Measurement & Testing of Circuits
31713H (12)	Pneumatic And Hydraulic Systems
31746H (41)	Manufacturing Secondary Machining Process

## **Year 2 - NENG004F1A**

31725H (6)	Microcontroller Systems For Engineers
31710H (5)	A Specialist Engineering Project
31723H (7)	Calculus To Solve Engineering Problems
31715H (25)	Mechanical Behaviour Of Metallic Materials
60138P (57)	Sustainable Transport
31724H (8)	Further Engineering Mathematics
31726H (13)	Welding Technology
31753H (47)	Composites Manufacture And Repair Processes

### **Subject**

These units will be taught through class lectures, workshop exercises, Laboratory experiments and a number of assignment and integrated assignments.

To gain the full BTEC National Certificate you must pass all of the units stated above. If, however, you do not pass all of the units, certificate of achievement can still be awarded for those that have been successfully completed.

A Learning Resource Centre (LRC) is available for students to use when completing assignments. On the Broadwater site we have a Learning Resource Centre (LRC) and Library situated in R Block; opening times are shown in the SIG p12-13. LRC assistants are also available should you need guidance with the resource material or in using the computers.

### **3.2 Study Programme**

*Your study programme timetable includes the following elements:*

- *Course hours – these are the subject hours for the course you are enrolled on*
- *Tutorials*
- *Independent supervised study – This can be carried out in areas of study such as LRCs, FLAs. Members of staff will be on hand to support you if required.*

- *Planned work placements - work placements that take place outside of normal class time*

#### **4. Assessment**

Each unit module will be assessed through written tests, course work and integrated assignments. Self and group assessment will also form part of the assessment process especially in the Professional Engineering Project where you will be required to give a presentation to your tutors and peers.

For each assignment the criteria for the award of a Pass, Merit and Distinction grade will be specified in the assignment brief. At the end of the unit an overall Grade will be given for the unit as a whole.

An assessment front cover, (included with the assignment brief), must be attached to each assignment before it is handed in.

##### **4.1 Formative assessment**

Formative assessment involves both the assessor and the student in a conversation about their progress and takes place **prior** to summative assessment. The main function of formative assessment is to provide feedback to enable you to make improvements to consolidate a pass, or attain a higher grade. No more than two opportunities for formative assessment will be allowed.

Following formative assessment and feedback, you will be able to;

- Revisit work to add to the original evidence produced to consolidate a Pass grade or to enhance your work to achieve a higher grade.
- Submit evidence for summative assessment and final unit grade.

##### **4.2 Summative assessment**

Summative assessment is a final assessment decision on assignment tasks in relation to the assessment criteria of each unit. This is the definitive assessment and where you will receive your mark for that assignment.

##### **4.3 Submission of assignments**

All assignments contain a date for the assignment to be submitted. This date needs to be adhered to. If for any reason you think that you will be late in submitting an assignment the reason for this should be discussed with your tutor at the earliest possible time. All assignments will be marked and returned to you within 15 working days. **All assignment work must be submitted through google classroom.**

##### **4.4 Pass**

The work must be submitted within the agreed deadlines. A satisfactory piece of work that shows that you have completed the assignment pass criteria. The assignment should be presented in a clear and logical order, and all of the tasks indicated for a



Pass grade must be completed albeit with some help from the teaching staff, minor mistakes may be accepted.

#### **4.5 Merit and Distinction: Grading requirements**

The work must be submitted within the agreed deadlines. In general terms the higher grades should show that you have produced an excellent piece of work that is well researched and presented. The tasks should have been completed well, with the minimum input necessary from the teaching staff. It should be clear that a real effort has been made. It should be evident when completing the assignment that you have tried to verify your answers where possible and reflected on your work.

To gain a Merit you must gain the all Pass grading criteria as well as the Merit descriptors

To gain the Distinction you first must have successfully gained the Merit as well as the Distinction descriptors

#### **4.6 Submission of Evidence**

Only **one submission** is allowed for each assignment. Each learner must submit;

An assignment for assessment which consists of evidence towards the targeted assessment criteria

A signed and dated declaration of authenticity with each assignment which confirms they have produced the evidence themselves.

Because every assignment contributes to the final qualification grade, it may be appropriate for the Lead Internal Verifier to authorise one opportunity for a learner to resubmit evidence to meet assessment criteria targeted by an assignment.

The Lead Internal Verifier can only authorise a resubmission if all of the following conditions are met;

The learner has met the initial deadlines set in the assignment, or has met an agreed deadline extension

The tutor judges that the learner will be able to provide improved evidence without further guidance

The assessor has authenticated the evidence submitted for assessment and the evidence is accompanied by a signed and dated declaration of authenticity by the learner.

If a learner has **not** met all of these conditions then the Lead Internal Verifier **cannot** authorise a resubmission.

If a learner has met all of the conditions listed above in opportunities for resubmission, but still not achieved a pass criteria following resubmission of an

assignment, the Lead Internal Verifier may authorise one retake opportunity to meet the required pass criteria. The Lead Internal Verifier can only authorise a retake in **exceptional** circumstances where they believe it is necessary, appropriate and fair to do so.

#### **4.7 Resubmission of Assignments**

All work submitted must meet the agreed timelines recorded on the assignment brief. If work is submitted outside of these timelines agreed then the work will not be downgraded to a pass level unless the assessment merit/distinction grade descriptors require evidence of;

- Meeting agreed timelines
- The ability to plan/organise time effectively
- The ability to work to industrial/commercial practices that include implicit timelines.

#### **4.8 Plagiarism**

The College defines plagiarism as students attempting to seek unfair advantage by passing off work, ideas, words or concepts produced by someone else as their own. It may take the form of copying or using material from someone else and implying that it is your own, by giving the impression that you have written or conceived work which has come from another source. This is a clear example of academic dishonesty and may well also be in breach of various copyright legislation.

The College views plagiarism as a very serious example of misconduct and has in place a process which may well lead to the student's final award being disallowed.

Plagiarism may be unintentional, and your previous educational experience may not have provided clear guidelines on how to compile and reference material which you have sourced. However, as your course progresses you will be given clear advice on how to give due acknowledgement to research material. It is very important that you use your course study skills guides to find the appropriate way to reference research material. When you hand in work for assessment you will be required to sign a statement identifying that your submission is entirely your own work, except where you have cited your sources. The College may require work to be submitted electronically so that it can be scanned by specialist plagiarism detection software.

Cases of suspected plagiarism are dealt with in the first instance by the appropriate course assessment panel, which is best placed to judge what constitutes plagiarism, as opposed to legitimate derivation and use of source material.

The nature and implications of academic plagiarism are made clear to students, as are the legal requirements of the 1988 Copyright Act and the practical application of copyright, design registration and other forms of design protection. These issues, together with those concessions relating to educational purposes are included in the course content – remember the use of a copied midi file, sample or the downloading of an article from the web is deemed to be infringing copyright if you attempt to present it as your work. Audio samples used in creative work must be given correct

credit and you must seek clearance if you wish to use samples in published work (eg a record release).

#### **4.9 Appeals**

Learners will be notified of their right to appeal against assessment decisions during the course induction when the procedure will be explained to them. The college will;

- inform the learner at induction, of the Appeals Policy and procedure record, track and validate any appeal
- forward the appeal to the Awarding Body when a learner considers that a decision continues to disadvantage her/him after the internal appeals process has been exhausted
- keep appeals records for inspection by the Awarding Body for a minimum of 18 months
- have a staged appeals procedure
- will take appropriate action to protect the interests of other learners and the integrity of the qualification, when the outcome of an appeal questions the validity of other results
- monitor appeals to inform quality improvement.

#### **4.10 Attendance**

100% attendance is expected.

Most subjects contain an element of continual assessment and it should be noted that regular non-attendance will normally lead to a fail.

In addition, many students are in receipt of some form of support whether for maintenance or tuition fees. The College has a responsibility to ensure public funds are properly spent and poor attendance would suggest that they are not. Consequently, the College will report poor attendance to the appropriate awarding authority. This usually results in the support being withdrawn. In extreme cases the authority demands repayment of any monies paid.

#### **Absence Reporting**

A clear process is in place for students to report unforeseen absence across all Chichester College Group.

This is detailed in the **Student Handbook** and is publicised across all campuses.

Students should be discouraged from reporting absence directly to their tutor, curriculum administrator, or campus reception, and encouraged to use the options below.

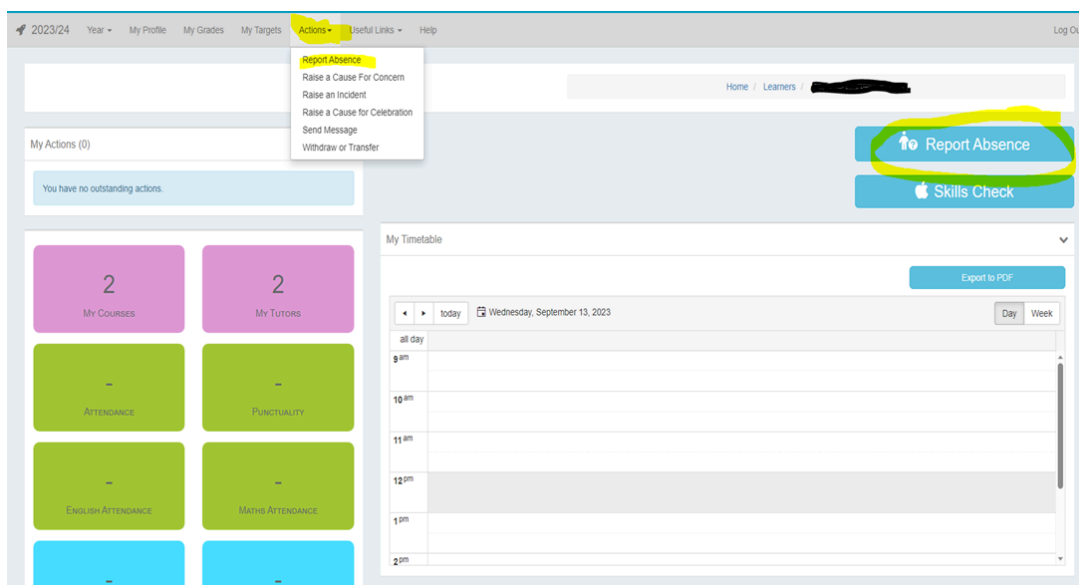
## Unforeseen absences - notification to College

### To report an absence:

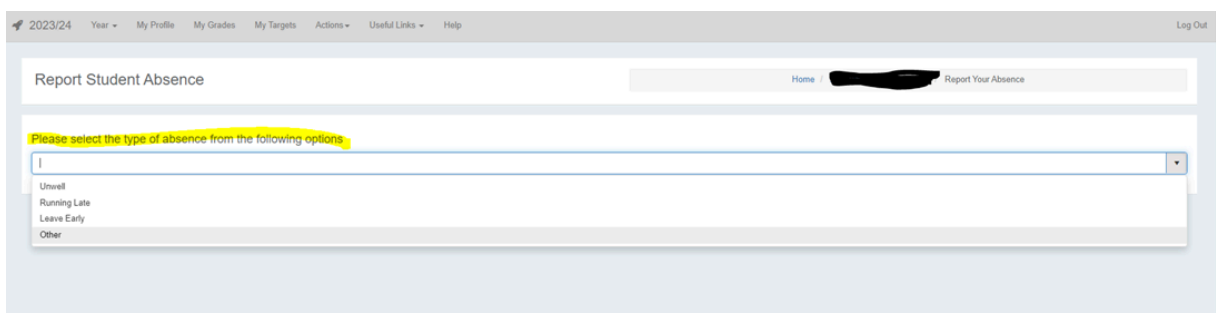
- Log onto C Space through CCG Online or the student intranet or by going to <https://cspace.chichester.ac.uk>
- Please note Brighton MET and Northbrook students you must use your Microsoft log in to do this (xxxxxxx@stu.gbmc.ac.uk) and not your google email ID.

On your home page, you have 2 options to report an absence:

1. Click on the report absence button highlighted below or select report absence from the actions list on the top bar.



2. Select the reason for your absence



Select the date of absence and a more detailed reason for absence from the list below the date and then click submit your absence.

Once you have submitted your absence an automatic notification will go to all staff who are teaching you on that day and your Pastoral Support Tutor (for students who are 16 -19 on full time programmes).

#### 4.11 Role of the Assessor

The primary role of assessors is to assess candidates' performance and/or related knowledge in a range of tasks and to ensure that the competence/knowledge demonstrated meets the requirements of the standards/syllabus.

Assessors are responsible for;

- ensuring that each candidate is aware of his/her responsibility in the collection and presentation of evidence.
- following assessment guidance provided by the awarding body and centre.
- judging the evidence and recording assessment decisions against the standards/syllabus.
- providing the candidates with prompt, accurate and constructive feedback.
- agreeing new plans with candidates where further evidence is required.

demonstrating commitment to ant-discriminatory practice and equal opportunities

It is hoped that minor disputes about assessment decisions, marks awarded (if applicable) or comments by marking tutors/assessors will be settled amicably in an informal way. However if the learner wishes to make a formal challenge about such decisions or comments then the college procedure below must be followed.

#### 4.12 Role of the Internal Verifier

Internal verification is the quality assurance system that we use to monitor assessment practice and decisions. The Internal Verifier carries this out by ensuring that;

- assessment is accurate, consistent, current, timely, valid, authentic and to BTEC standards
- assessment is consistent across assessors

- assessment instruments are fit for purpose
- assessment decisions accurately match student work to the unit assessment criteria
- standardisation of assessors take place

Internal Verifiers are also responsible for;

- ensuring that assessors follow the assessment guidance provided.
- advising and supporting assessors to assist them in interpreting and applying the standards/syllabus correctly and consistently.
- regularly sampling assessment activities.
- ensuring that equal opportunities and anti-discriminatory practices are upheld in the assessment process.

#### **4.13 Standards Verifier (SV)**

Standards verification is how Edexcel check that as a centre we are operating quality assurance and assessing to national standards. External examination relates to centres operating programmes in the manner associated with higher education or qualifications in a professional context.

#### **Why is it carried out?**

They undertake external examination to ensure reliability of assessment across all BTEC centres, and to:

- provide a thorough review of assessment and verification
- ensure that correct processes and procedures are being applied, consistent with qualifications at higher levels
- encourage the college to continue to deliver best practice in vocational assessment
- provide a detailed report on verification and assessment practice for the relevant programme sector

#### 4.14 Assessment Board



Each centre is expected by Pearson to hold Assessment Boards for all of its BTEC Higher National programmes.

The main purpose of an Assessment Board is to make recommendations on:

- The grades achieved by students on the individual modules or units
- Extenuating circumstances
- Cases of plagiarism
- Progression of students onto the next stage of the programme
- The awards to be made to students
- Referrals and deferrals.

Assessment Boards may also monitor academic standards. The board is normally held at the end of the academic year. There may also be a separate board to deal with referrals.

The board comprises of all of the members of the assessment and internal verification teams along with an independent chairperson and secretary. The Pearson Standards Verifier (SV/EE) also has the right to attend if he so wishes. The board meeting adheres to the Northbrook Engineering Assessment Board regulations and closely follows the guidance set by Pearson and the QAA Code of Practice for the assurance of academic quality and standards in higher education.

The Assessment Board is a requirement for both Pearson and QAA and Assessment Board reports and minutes provide valuable evidence for QAA's review of College Higher Education processes

## **5.0 General Course Information**

### **5.1 Course Time table**

**Full Time Mechanical FE0329**

**Year 1**

on separate sheet

### **5.2 Academic Calendar**

<https://www.northbrook.ac.uk/college-information/term-dates/>

### **5.3 Course Book List**

There is no requirement to buy books to support this course, the necessary texts to use as reference sources is stated on each of the assignment sheets you are issued, All of these books are available in the LRC,

#### **Supplementary Reading**

Engineering Mathematics 2nd edition

K A Stroud

Project Management

D Lock

(Gower Pub 2000) 0-566-08225x

A Guide to Microsoft Excel 2002 for Scientist and Engineers

Bernard VLiengme

(Elsevier 2005) 0-7506-5613-1



## **5.5 Kit List**

When attending college you are expected to bring with you the following items;

- Clean, serviceable overalls warehouse/dust coat.
- Safety boots or shoes.
- Paper, Lined or squared A4 pad for theory lessons, smaller notebook for workshop.
- pens, pencils (2H or 4H is ideal standard Hb pencils are a bit soft for drawing)
- geometry set (30/60 and 45 squares, protractor, compasses, and a ruler)
- scientific calculator  
casio fx-85 or similar is okay, ideal is the Casio fx-991es or if you intend heading to university you may prefer the increased functionality of the Casio CG-50 other makes or brands are also acceptable but the majority of lessons will be taught around the casio.
- This course book.
- A coursework folder.
- Course textbooks.
- ***Lastly, a smile and a willing mind keen to be improved!***

