



BTEC Level 3 Engineering Student Handbook

Course title

Pearson BTEC Level 3 National Diploma in Engineering

Pearson BTEC Level 3 National Extended Diploma in
Engineering

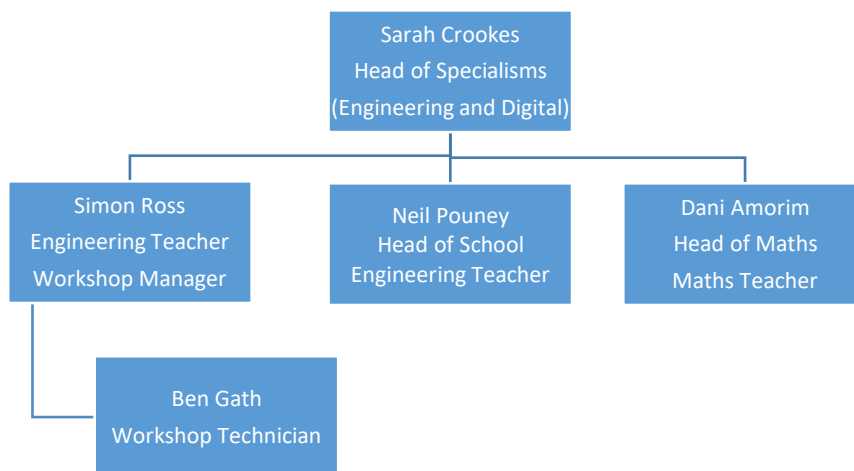


Welcome from the Head of Specialisms – Sarah Crookes

I would like to extend a really warm welcome to you to UTC Swindon and the Engineering Department in particular. Engineering is one of the things that makes a UTC different from where you may have been at school before and certainly adds credibility when you apply for your next stage in just over a year's time.

Engineering is an incredibly rewarding subject to study and work in due to the never ending variety of disciplines and industries that are involved. By taking this course you will learn about these different disciplines and narrow down your preferences for where Engineering can take you next.

Introducing the Staff:



Head of Specialisms: Sarah Crookes

Sarah is responsible for all Engineering and Digital Technology courses within UTC Swindon. If you have any concerns that cannot be answered by another member of staff, then please see her.

Engineering Teachers:

You will be studying a variety of units and these will be led by different teachers. They will tell you which units they are responsible for and the assessment dates that you need to adhere to.

Sarah Crookes

Simon Ross

Neil Pouney

Dani Amorim

Workshop Technician:

The technician will provide support, guidance and instruction in the workshop.

Ben Gath

EQUIPMENT:

You will need to have your own safety boots, navy blue overalls and safety glasses for working in the workshop. We also recommend that you get your own laptop if possible to aid you in completing coursework. If you need to buy a computer we recommend a windows based PC which will run the programmes you need but not a chromebook as these are generally not powerful enough for applications such as CAD. You will also need standard stationery such as pens, pencils, notebook, maths set and scientific calculator.



BTEC ENGINEERING UNITS:

You have started on the BTEC Level 3 Extended Diploma [1080 GLH (Guided Learning Hours)] which is equivalent in size to 3 A levels or a Diploma (720 GLH) which is equivalent in size to 2 A Levels. All units have a point's value and to achieve the overall qualification you must have studied and submitted work for units totalling 1080 or 720 GLH.

Below are the units you will be following to gain your Engineering qualification. You will be given the content and the assessment criteria by your teacher when you start each unit. A diploma student will study 10 units and an extended diploma student 15. Units taken only by extended diploma students are highlighted in yellow.

Unit	Unit Title	Assessment	GLH	Year
1	Engineering Principles	External	120	12
2	Delivery of Engineering Processes Safely as a Team	Internal	60	12
3	Engineering Product design and Manufacture	External	120	13
4	Applied Commercial and Quality Principles in Engineering	Internal	60	12
5	A Specialist Engineering Project	Internal	60	13
6	Microcontroller Systems for Engineers	External	120	13
7	Calculus to Solve Engineering Problems	Internal	60	13
8	Further Engineering Maths	Internal	60	13

10	Computer Aided Design in Engineering	Internal	60	12
13	Welding Technology	Internal	60	12
19	Electronic Devices and Circuits	Internal	60	13
22	Electrical Printed Circuit Board Design and Manufacture	Internal	60	13
24	Maintenance of Mechanical Systems	Internal	60	12/13
30	Mechanical Measurement and Inspection Technology	Internal	60	13
45	Additive Manufacturing Processes	Internal	60	12/13

BTEC ASSESSMENT

Assessment of BTEC units can be either internal or external.

Three of the units are externally assessed by exam, Units 1, 3 and 6. The course staff will explain the assessment for these units and prepare you for them.

All other units are internally assessed in this qualification. This means that your teacher will set you assignments and you will complete the work and they will mark this. However this work will be subject to a verification check by BTEC during the academic year.

You need to make sure that you meet deadlines and follow the guidelines and rules given to you about submission of assignments.



The

Importance of Meeting Deadlines

Meeting deadlines is one of life's most important skills to acquire. All of us, no matter what job we will do in our life, will need this skill in order to be successful. BTEC courses are designed to reflect and acknowledge real-world employment conditions and, as such, teaching students how to meet deadlines is a top priority. Therefore you must meet the deadlines set for submission

From September 2014, BTEC decided that students will have one submission opportunity only for their work. Once submitted, the work will be graded. It is, therefore, absolutely crucial that you develop good working habits as soon as you begin the course.

Resubmission

If you do not achieve the targeted assessment criteria on the first submission you **may** be given one opportunity to improve and re-submit your work, to gain the pass criteria. However this has to be decided by the Lead Internal Verifier, under the rules laid down by BTEC. Your teacher will need to ask the Lead Internal Verifier to give authorisation to allow you to resubmit your work, but this will NOT be granted automatically.

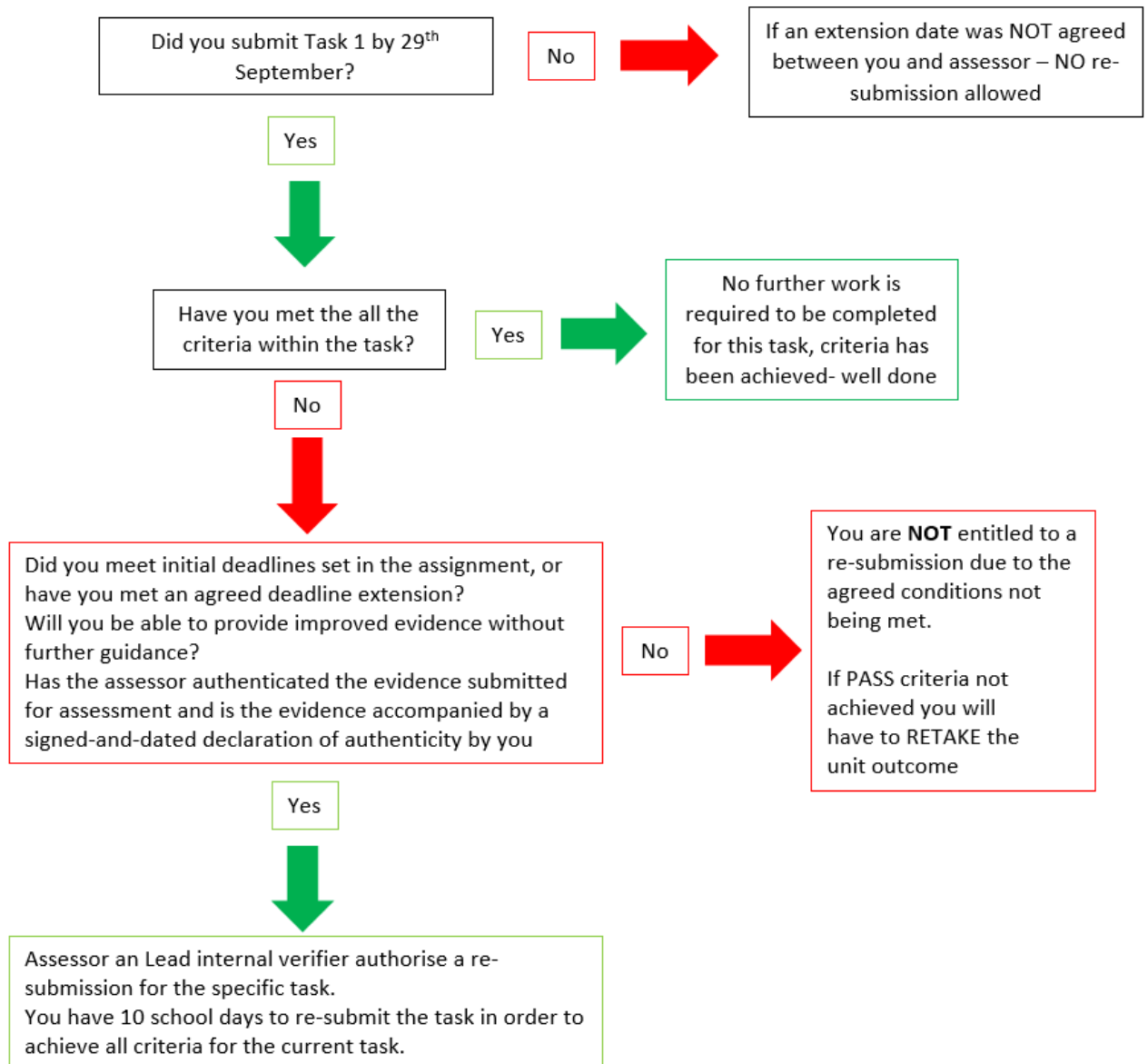
If you are allowed to resubmit a piece of work you must improve/add to the original piece without further guidance and must hand this in on the date agreed with your teacher (usually within 10 working days). Also this must not roll over into the next academic year.

However, in exceptional circumstances, there may be a legitimate reason for not being able to meet the deadline. This gives you an opportunity to explain the reasons why you cannot meet the assessment deadline and agree a new deadline date. This must be done at least 5 days before the deadline date wherever possible, not afterwards. The submission diagram that follows is a useful tool to help understand the process.

Submission Diagram

Example:

You have been set a deadline for the 29th September 20XX- the diagram below will outline the submission and resubmission guidelines:



BTEC Internal Assessment rules:

You must complete a BTEC form with every assignment you hand in. By doing this you are

1. Signing and dating a declaration of authenticity. This means that you are confirming the evidence you are presenting is your own and that you understand the consequences of submitting plagiarised work.
2. Submitting work which has all the evidence for the criteria being examined.

Plagiarism

Authenticity of your work

You are encouraged to read around the units of work that you study and to use a range of resources. Assignments that are thoroughly researched are of a higher quality. You will need to quote from your sources and be able to site examples that illustrate your ideas. Teachers will explain how to quote and reference work in your units. However, if you take another author's work as your own and do not reference it, you will be plagiarising.

The following forms of plagiarism are:

- Copying from texts or journals.
- Copying from other students.
- Wholesale downloading from the internet.

Assignments will be held by teachers until the unit has been completed by all students.

The teaching team will monitor the progress of assignments as they are being undertaken and will discourage plagiarism.

If your teacher feels that you have plagiarised then a meeting will take place to consider the case and the outcome. There is a high chance that you will fail the unit if found plagiarising.

Group Work

Some tasks will be completed in groups. You can work in groups to prepare fully for the assignment but you must complete and submit the work individually.

Submission Checklist

1. Complete the work to the best of your ability and print double sided maximum size 12 text with each page numbered and your name in the header.
2. Print out the assignment brief containing the declaration form and attach it to your work.
3. If you need to resubmit the assignment you must hand in the cover pages and original assignment again to provide an audit trail for when the work is moderated by Pearson.

BTEC GRADING OF THE QUALIFICATION

Each unit has a specification [what you need to learn] and then assessment criteria. Each unit is graded Pass, Merit or Distinction.

- To get a Pass, you must have met all the Pass Assessment criteria
- To get a Merit, you must have met all the Merit Assessment criteria
- To get a Distinction, you must have met all the Distinction Assessment criteria

This adds up to give you a total points score once you have completed all 15 (or 10) units. As you complete units, you will be able to keep a track of the grade you may get at the end of the course.

UCAS POINTS

UCAS Points	A-Levels	BTEC Diploma	BTEC Extended Diploma
168	A*A*A*		D*D*D*
160	A*A*A		D*D*D
152			D*DD
144	AAA		DDD
128	ABB		DDM
112	BBC	D*D*	DMM
104		D*D	
96	CCC or AA	DD	MMM
80	BB	DM	MMP
64	CC	MM	MPP
56	A*		
48	A	MP	PPP
40	B		
32	C	PP	
24	D		
16	E		

Useful Websites, Videos and Resources

Books available from Amazon:

Pearson REVISE BTEC National Engineering Revision Guide – ISBN 1292150289

BTEC National Engineering Student Book: For the 2016 specifications – ISBN 129214100X

Websites:

<https://www.technologystudent.com/>