

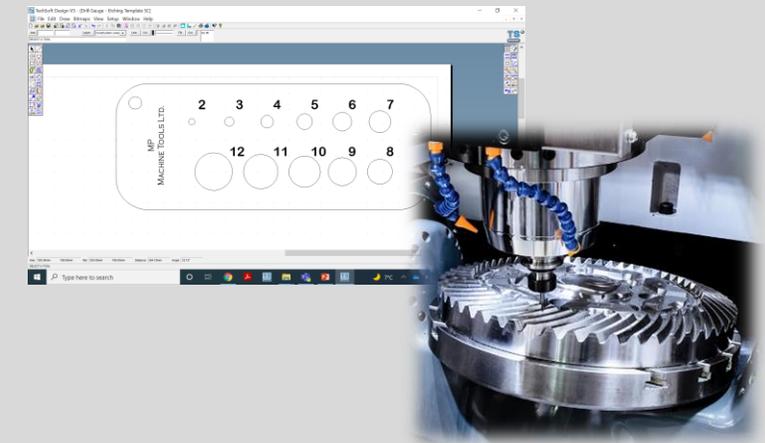
# OCR CAMBRIDGE NATIONAL- Level 1/2 ENGINEERING MANUFACTURE

3 units covered-

- Principles of Engineering Manufacture (40% of final grade)

- Manufacturing a One-Off Product (30% of final grade)

- Manufacturing in Quantity (30% of final grade)



# Progress to date:



Unit	Progress
<p><b>NON-EXAMINED ASSESSMENT</b></p> <p>R015: Manufacturing a one off product (Steel Hammer)</p> <p>R016: Manufacturing in Quantity (Sunglasses Stand)</p>	<p>Marks submitted September 2023. Awaiting moderation. Students aware of grades achieved.</p> <p>Skills covered Oct-Nov 2023. Graded work started w/c 20/11/23.</p>
<p><b>EXAM</b></p> <p>R014: Principles of Engineering Manufacture</p>	<p>Topic Areas 1&amp;2 Covered in Summer 2023 for Mock Series 1. All areas to be revisited/covered from Jan 2024 until summer exam series.</p>

**OCR**  
Oxford Cambridge and RSA

Friday 24 May 2019 – Afternoon

**LEVEL 1/2 CAMBRIDGE NATIONAL IN ENGINEERING MANUFACTURE**

**R109/01** Engineering materials, processes and production

Time allowed: 1 hour

Candidates answer on the Question Paper.

OCR supplied materials:

- None

Other materials required:

- None



Please write clearly in black ink. Do not write in the barcodes.

Centre number       Candidate number

First name(s) \_\_\_\_\_

Last name \_\_\_\_\_

**INSTRUCTIONS**

- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer all the questions.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).

**INFORMATION**

- The total number of marks for this paper is 60.
- The number of marks for each question is given in brackets [ ] at the end of each question or part question.
- Dimensions are in millimetres unless stated otherwise.
- Your quality of written communication will be assessed in questions marked with an asterisk (\*).
- This document consists of 12 pages. Any blank pages are indicated.

# R016 Calendar

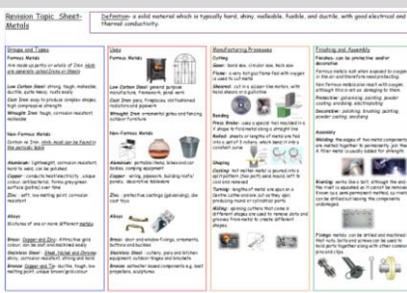
W/C	R016 NEA	Practice R016
23/10/23		CBA Paper
		CAD Drawing
		Production planning- Complete as HWK
06/11		Template production
		Template production
13/11		Template production
	CAD Drawing	<b>Laser programming (individual)</b>
	CAD Drawing	<b>Laser programming (individual)</b>
20/11	Production planning	<b>Laser programming (individual)</b>
	Production planning	<b>Laser programming (individual)</b>
27/11	Template production	<b>Laser cutting (individual)</b>
	Template production	<b>Laser cutting (individual)</b>
	Template production	<b>Laser cutting (individual)</b>
04/12	Template production	<b>Laser cutting (individual)</b>
	Programming write up	
	<b>Y11 DROP DOWN DAY (R016)</b> <b>(PROGRAMMING/CUTTING OF FINAL PRODUCT)</b>	
11/12	Programming write up/laser cutting	
	Programming write up/laser cutting	
	QC/Evaluation	
18/12	QC/Evaluation	
	Buffer	

# What can I do?

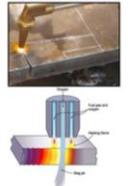
- Come to Commit to Six (Mondays 3-4pm)- this will be especially important for R016 as you can have dedicated use of the laser cutter and its programming software.



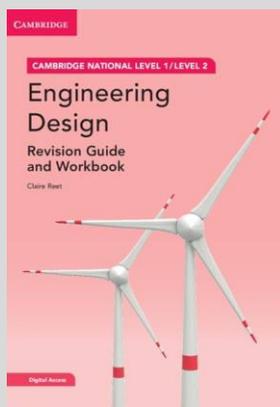
- Download and read the revision guides on Teams/J-Drive



### Oxy-Gas Cutting



When steel is heated, it becomes more vulnerable to a chemical reaction called **oxidisation**; the same reaction that causes rust. Gas cutting uses a hot flame to heat the metal, and a high pressure jet of oxygen which turns it into **metal oxide**, then blows it through the joint.



- Use the revision guide provided →

- Watch- there are lots of good programmes on channels like discovery or YouTube (the Efficient Engineer is good) with visible examples of materials and properties in use.

