

Cambridge National in Engineering Manufacture  
(Level 1/Level 2)

**A Level**  
Design and  
Technology  
(Level 3)

**Apprenticeship**  
e.g. Manufacturing  
and Process Operative  
(Level 3)

**Cambridge  
Technical  
Engineering**  
(Levels 2 and 3)

**T Level**  
Manufacturing,  
Processing and Control  
(Level 3)

Prepare units R015, R016  
for submission

**PPE  
EXAM**



**Revision – R014:  
Principles of engineering  
Manufacture**

- Manufacturing processes
- Engineering materials
- Manufacturing requirements
- Developments in engineering manufacture

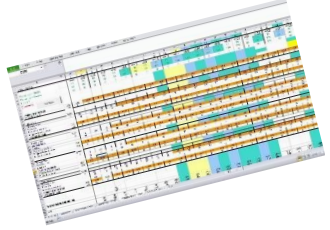


Prepare and revise for re-  
sit of unit R014 as  
necessary

**PPE  
EXAM**



Students prepare and  
revise for the public  
exam proper using  
past papers and  
revision materials  
provided



**R015: Manufacturing a one-off  
product**

How to safely plan and  
produce a one-off product by  
using appropriate processes, tools  
and equipment

Make a  
prototype one  
off product on  
manual lathes  
and milling  
machines



**R016: Manufacturing in quantity  
Use of CAD package.**

Use Alpha Cam  
Use on CNC machinery  
Set up use the CNC lathe and CNC  
milling machine

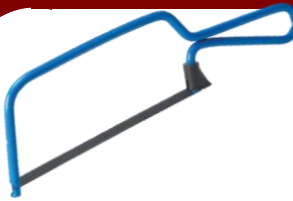


Machine the one off product  
on the CNC lathe and Milling  
machine.

**PPE  
EXAM**

**YEAR  
11**

**YEAR  
10**



**Junior Hacksaw steel frame**

Develop an understanding of  
the accuracy required in use of a jig  
to successfully, bend the steel  
rod to the correct shape.



Develop an understanding  
of using a milling machine  
and end mill to machine  
the clamp halves to length



**Toolmakers Clamps**

Develop understanding of  
marking clamp bar stock  
lengths and cutting using a  
hacksaw

Develop an understanding  
of using a lathe to form the  
swivel foot of the g clamp  
by taper turning and  
specialised drilling



**G Clamp**

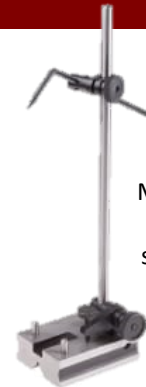
Students further  
develop understanding  
of foundry work by  
using a split pattern to  
cast the g clamp frame  
casting.

**YEAR  
9**

**The completion of the  
Spinning Top project**



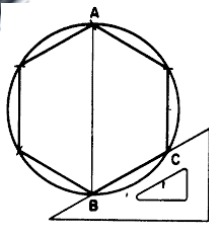
Marking blue ,  
marking out  
surface plate,  
and scribing  
block



Safe use of the **centre lathe** to  
perform facing off and turning  
down operations



Mark the hexagon shape of  
the spinning to disc



To understand the  
properties of Steel

**PPE  
EXAM**

**YEAR  
8**

**The production of a  
Mobile Phone Stand**

- Use of the drilling  
machine
- Use of a deburring tool
- Use of a pop rivet gun

Mark out the **mobile  
phone stand cradle and  
support leg**



To understand the  
properties of  
Aluminium

**YEAR  
7**

Safe and correct use of  
cutting out tools and  
equipment.



The safe and correct use  
of marking out tools  
and equipment

**SAFETY  
FIRST**

**The importance  
of Health and  
Safety**

**CURRICULUM  
OVERVIEW**

Name	
Subject	Engineering
Room	
Teacher	