INSTRUCTIONS for writing your Task in Engineering

- This is a template (**guide**) for writing up the task.
- It is **not** to be just copied directly as it is.
- The **pictures** are for helping you understand and are **not** to be used.
- You have to get your own pictures online or with a camera.
- None of the writing in *italics* will be in the final version.
- Open a new WORD document and start typing.

Page	What to do	What to change	
Title page	Fill in the info.	Name & Picture	
Contents page	Exactly as it is	No page numbers for now	
Introduction	Research online	Use your own words	
Aims	Write at least 3 (5 is good)	Nothing	
Research	Go online	All	
Planning	Put in all info you find	N/A	
Integration	Put in the numbers	Nothing	
Making	Complete the chart	Nothing	
Evaluation	Write your own	All	
Conclusion	Be imaginative	All	

LCA ENGINEERING TASK

Module Two

Decorative Metalwork

April 2012

<u>Your</u> name

A picture or clipart



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Introduction

Decorative Metalwork in Ireland dates back to pre-historic times. The evidence of this can be found in the National Museum. Among the exhibits to be seen there are, the Ardagh Chalice, the Torc and many more works in Metal.

It is appropriate therefore that the LCA course includes Decorative Metalwork as a Module activity. The different methods we have learned about are:

- hot bending
- cold bending
- twisting
- scrolling
- welding
- finishing

My favourite kind of metal-art is

(Picture of e.g.)
The Ardagh Chalice

<u>Aims</u>

- 1. I aim to design a product using Black Mild Steel as the material.
- 2. I aim to use the decorative techniques I have learned.
- 3. I aim to produce something that will look well and have a use.
- 4. Etc,...

(Picture of)
A Candlestick looks well and holds a candle

Research

When I started thinking about the task I had no idea what I was going to make. had a look through some magazines and noticed
went online and found
Etc, etc,
(Picture here) This is an example of a simple but attractive piece of Decorative Metalwork

Researching the possibile designs



This one had glass candleholders that made the design interesting (Plans, photos, photocopies, sketches, ideas)

Planning (Photos if any)

Planning (Photocopies if any)

Planning (Sketches)

Integration

Maths Formula 1. For working out the circumference of a circle.

Circ. =
$$2\pi R$$

Where: $\pi = 3.14$ (No. of times the diameter goes around the circle)

R =The radius of the circle.

2R =The Diameter.

So another way of saying this is $\pi \times D$

Maths Formula 2. For finding the length of material needed for the legs.

$$Lt = L1 + L2 + L3$$

Where: Lt = The total length of material needed.

L1, L2, L3, etc, = The individual lengths.

Maths Formula 3. For finding the Guard length

$$Lg = \pi \times D \times N$$

Where: Lg = Total length of material for the candle guard.

D = Candle diameter.

N = Number of rounds required.

Making

Operations Chart

<u>Part</u> <u>No.</u>	<u>Name</u>	<u>Material</u>	Tools/ Process	<u>Finish</u>	<u>Safety</u>
1	Legs	Black Mild Steel			
2	Stem	Black Mild Steel			
3	Plate	Bright Mild Steel			
4	Guard	Black Mild Steel			
5	Scroll	Black Mild Steel			
6	Pin	Steel			

Machines I used:



One of the machines I used was a cut-off saw



The MIG welder is used to join the parts

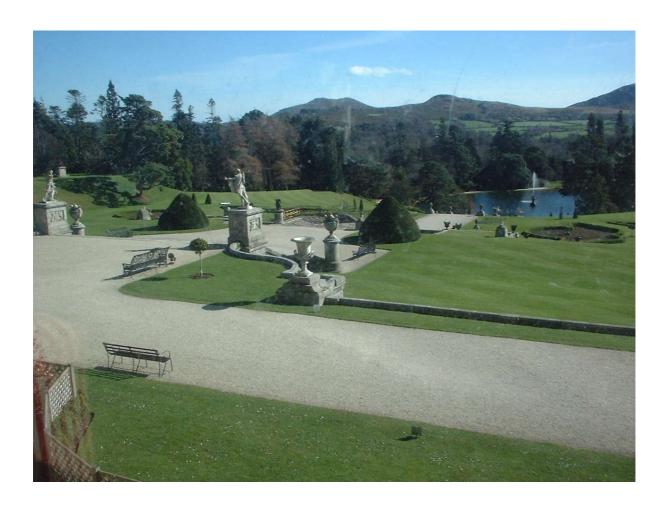
Making contd...

Problems I had to overcome:

- 1.
- 2.
- 3.
- 4.

etc

Evaluation



Conclusions

The first thing that I must say is how much I enjoyed making my...

I have learned a lot, including welding, forging, etc

Finally, I would like to thank the brilliant and patient James Macklin.