

MAJOR PROJECT REMINDER

YOU WILL NEED TO ENSURE THAT YOUR DESIGN FOLDER IS COMPLETED AT HOME.

PRACTICAL - 40%

E-PORTFOLIO - 20%

THESE SHEETS SHOULD GIVE YOU A GENERAL OUTLINE OF THE INFORMATION YOU NEED TO COMPLETE YOUR E-PORTFOLIO. THERE SHOULD BE SOMETHING IN YOUR POWERPOINT FOR EACH SECTION OF THE PROJECT.

DESIGNING SECTIONS

Problem/Brief

Task analysis

Research

Analysis of research

Specification

Initial Design Ideas

Development of ideas for (program, model, circuit)

Final designs

Planning of making

Evaluation, testing, modification

Use of CAD/Industrial practices

Social, moral, environmental and sustainability issues

MAKING SECTIONS

Photographic evidence

Correction of errors

Use of equipment and processes

Production and effectiveness of outcome

Level of accuracy and finish

Use of Quality Control and Quality Assurance/modelling

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DESIGNING

Final designs

These slides will provide all the information necessary for someone else to successfully make your project.

You will need to include information about:

- The sizes of any product to be made (sides, base top, back etc)
- Details about the techniques used and software (CD/CAM, 2D Design etc)
- Construction details (how made i.e. cutting list, sketches etc)
- Final drawings (could be 3D and or Google SketchUp)

Planning to make

As part of your 'Designing' grade, you must show evidence that you have planned out the sequence of your making activities. You should include information about the stages involved, and specifically, any tools you used, what materials were involved, and in what order you completed them. This can take many forms, ranging from lists to flow diagrams showing pictures of the tools you used. (YOU SHOULD HAVE DONE THIS ALREADY, BUT MAY WISH TO UPDATE IT).

Evaluation

Summarise your project by referencing it against your SPECIFICATION and what you said it was going to do and be like. Have you completed what you set out to do? what do you *really* think about it? You could start with three questions:

- Does your final design meet your specification ?
- What would you change about your project ?
- Do you like your final design ? Do others ?

If you wanted to, you could survey other people and find out what their views are and present a chart with the data.

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Industrial processes

You must explain how you would manufacture your final design in quantity. This area will include information on production processes.

CAD/CAM should also be covered in this section, explaining the system used and how you used it for your project or would use it. In short, you must convince a third party that you know about CAD/CAM.

MAKING

Correction of working errors

In many cases, you will find that your designs or practical work do not go according to plan. It might be that the material you chose wasn't suitable or it was not possible to use a computer for a particular application etc. Rather than throw unsuccessful work away, **keep it, record what happened, and what you did to overcome the problem.**

Use of appropriate equipment. You will be graded on your choice of equipment, including CAD/CAM. Choose the techniques which will work best for you.

Finally, you will be graded on

How effective is your outcome ? (How much is there ? Will it work ?)

Your level of accuracy and finish

Use of **Quality Assurance** (how you plan to ensure that your work is accurate) and **Quality Control** (how you check that your work is accurate).

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POINTS TO MAKE ABOUT AREAS WHERE YOU MAY BE A LITTLE CONFUSED

INDUSTRIAL PROCESSES (could be in your research)

This is where you explain how you would make your project in quantity. Obviously you wouldn't use scissors and glue, you would use production techniques. These will be different for each project, but there are some processes common to most projects.

CAD/CAM is used to improve the accuracy of your work and produce accurate/detailed items that can not be appropriately produced by hand. The advantage of **CAD/CAM** is that it is generally quicker and more accurate than done manually. It is also more consistent. It can also be edited more easily.

PCB PRODUCTION is common to all your projects and needs to be clearly described in terms of a one-off production (bespoke) for your project but in industry the reality is completely different. You need to explain that 'batch' and 'mass' production techniques are used on a large scale in greater volume and quantity, with rigorous quality control and assurance measures, using computer controlled manufacturing techniques to ensure speed, repetitiveness and keep costs down.

SOCIAL, ENVIRONMENTAL AND HEALTH AND SAFETY ISSUES

Use the help sheet and extract a few key points on each area (social issues, effect on the environment, health and safety points), that you feel are relevant to your project.

e.g. Social - you may feel that your project could play a role to demonstrate the importance of using computer control applications to relieve people from doing mundane and repetitive manual tasks. No more boring jobs etc. More leisure time (amusement park rides).

e.g. Environmental - your project might have used materials that can be recycled or promote an environmental issue (wind power etc)

e.g. Health and safety - you could explain what H&S precaution you took on your project or draw attention to your models safety features.