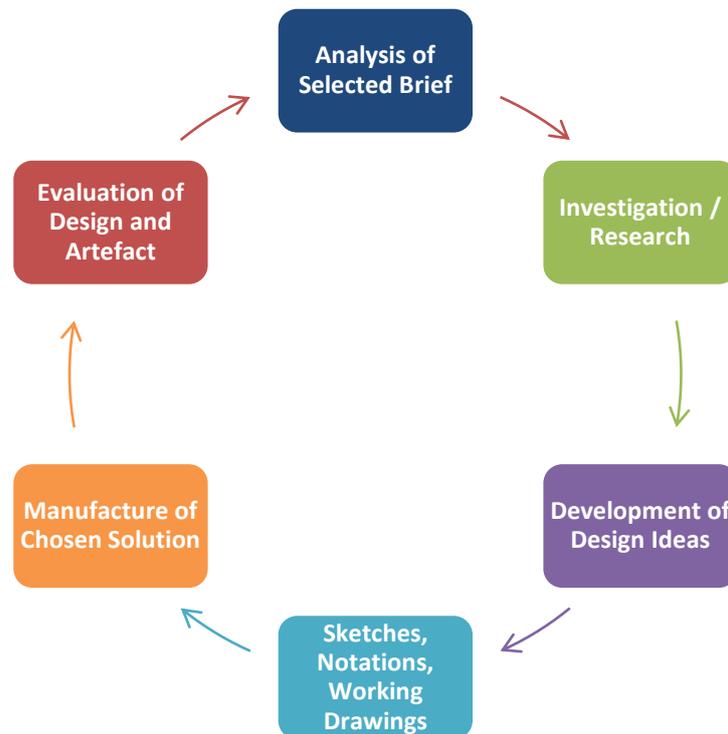




Crana College

Learning for Life

# Materials Technology (Wood)

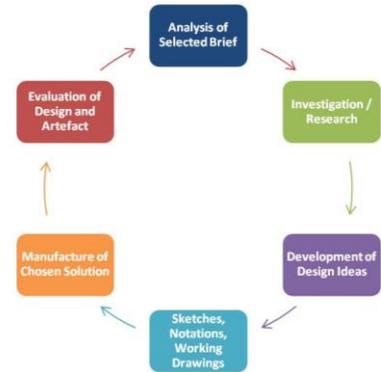


Junior Certificate Project and Design Folio

Guidelines Booklet

# The Design Process – Design steps in correct order...

1. Analysis of Selected Brief
2. Investigation / Research
3. Development of Design Ideas
4. Sketches, Notations, Working Drawings
5. Manufacture of Chosen Solution
6. Evaluation of Design and Artefact



# The Design Process - Explanation of steps in design process...

## 1. Analysis of Selected Brief

Examining the given brief to identify the stated requirements. Listing the problems to be overcome in order to create the project. Explaining keywords contained in the brief

## 2. Investigation / Research

The process wherein you look at the problem, identify key requirements for the design solution and gather information that will allow you to arrive at possible design solutions. Looking for ideas, studying similar artefacts, etc

## 3. Development of Design Ideas/Solution

Proposals based on the analysis of the brief and the investigation/research carried out that should meet all the requirements. One design idea or elements from several ideas can be brought together into the selected solution

## 4. Sketches, Notations, Working Drawings

Dimensioned drawings to include plan, elevation and end elevation and/or a pictorial view of the proposed artefact and sketches relating to its manufacture. Appropriate detailing and a materials list should be included.

## 5. Manufacture of Chosen Solution

You make the object you designed. Having completed the working drawings, worked out a timetable and collected all the materials and components, work can start on making the object you designed.

## 6. Evaluation of Design and Artefact

Review of project in relation to the given brief and making the artefact where fitness for purpose, appearance, use of materials, modifications, time management, safety and stability function, proportion, shape, problems encountered, modifications etc are considered.

# Junior Certificate Portfolio Guidelines

Your folio (folder) should be divided into chapters. Each chapter is further divided into headings. There are marks awarded for each section of your folder. You should use the following chapter titles and headings in your folio.

## Cover Page Information

1 page

- Materials Technology Wood Project 2015
- Exam Number
- Title of Project (The Project Brief) & Photograph of Completed Project

## Table of Contents

1 page

## Analysis of Brief

2+ pages

1. Write out brief and underline key words
2. List (or spider chart) important words from brief
3. Write a paragraph about each important word, explaining how it affects your project.

## Investigation/Research

4+ pages

*In this chapter you compile all the information necessary for your project.*

### 1. Items:

- Measure any items that are important for project.
- Draw a labelled sketch of each.

### 2. Ideas:

Look for suitable ideas for your project and advice about making your project. You can do this by

- Stores/shops visits (Sketch or photograph)
- Catalogues or magazines (Cut out or sketch)
- Interviews (Ask people for advice)

### 3. Materials:

Write a paragraph about three types of materials that could be used for each part of your project from:

- Hardwood, Softwood, Manufactured Board
- Plastics, Metals, Fabrics, Ceramics, etc.

Briefly describe each type of material.

Give a reason why each type would or would not be suitable for your project.

### 4. Assembly/Jointing

Sketch and describe jointing methods that could be used for your project (Min 3)

**5. Skills/Techniques**

Sketch and explain any skills that may be used in your project. Wood turning, carving or inlaying are examples of skills.

**6. Finishes:**

Write about the different types of finishes that could be used in your project work. (Min 3) e.g. Paint, Varnish, Danish Oil,

**Development of Design Ideas/Solutions****3+ pages**

*In this section you sketch and write about the development of your project from 1<sup>st</sup> idea to the final solution.*

**1. Possible Solutions**

Sketch 3 different ideas for your project. Include:

- Overall measurements - Shape, Size and Proportion
- Possible jointing methods
- Possible materials
- It must be clear from your Design Ideas how you develop your final solution (where you get your ideas!).

**2. Final Solution:**

- Decide which idea is the most suitable for your project. Give reasons as to why.
- Draw a neat shaded/coloured 3d sketch of your final idea.
- State measurements, materials and joints that will be used.

**3. Models:**

Make a neat scaled model of your final solution. (Use cardboard)

**4. Safety considerations:**

List any safety precautions necessary for the use of any machines or equipment needed to make your project.

**Sketches, Notations, Working Drawings****4+ pages****1. Working Drawings**

- Your working drawing should be a **Plan, Elevation** and **End View** of your project complete with all measurements.
- Note: If your drawing is scaled, put in full size measurements on your drawings.
- Sketch or draw an isometric of your project with exploded detail (with the joints pulled apart).

**2. Materials List**

A cutting list for all materials needed to make your project, as shown below:

ITEM	AMOUNT	LENGTH	WIDTH	THICKNESS	MATERIAL
Base	1	300mm	250mm	20mm	Beech

### 3. Planning

Step by step procedure for the manufacture of your project

- Marking out
- Joint making
- Procedure for carving, inlaying, turning etc.
- Assembly
- Finishing

This must be complete before you can begin making your project.

### Manufacture of Chosen Solution

4+ pages

- Describe (with diagrams) step by step (day by day) how you are going to make your project
- Record the making process by taking photography's of the different stages of making. E.g. marking out, cutting, jointing, assembly, sanding and finishing.

### Evaluation of Design and Artefact

3+ pages

*In the final chapter you have to assess your project for all its good and bad points, as well as explaining what you learned from the experience.*

1. **Fitness for purpose** - Does the project meet the brief?
2. **Appearance** - Does it look attractive?
3. **Use of materials** - Did I use the right materials? Did I use them correctly?
4. **Modifications** - Explain, using Notes and Sketches any changes that were made to the original plan. Give the reasons why these changes occurred. If I were to make this project again, what would I do differently?
5. **Safety and stability** - Is the project sturdy, safe and strong?

### 6. Final Thoughts

Summary of the complete project from start to finish:

- List three good points about your finished project and its design.
- List some bad points about your finished project and its design.
- What you would do differently and why
- What you could improve
- What you learned from producing the project

#### **Note:** Sources of Information

Make sure that you write down the name of the people, books, magazines, websites etc. that you get your ideas from.

Get Started Early and Gradually Produce The Portfolio.





