



ORANGE HIGH SCHOOL

ASSESSMENT TASK NOTIFICATION

Subject	HSC Industrial Technology
Topic	Major Project Folio Presentation
Class Teacher	T Thompson (Timber) & D Boundy (Metal)
Head Teacher	D Wait
Year	12 (HSC)
Date Given	Thursday 1/11/2018
Date Due	Term 4 Week 8 2018
Weighting	20%

Assessment Outline

Students are to produce an interactive Presentation on the development of their Major Project Folio, completed up to the beginning of the production stage. In weeks 1-8, term 4, students are required to develop their design, management and communication folio of their chosen Major Project. This will include milestones to meet to ensure efficient and effective time management.

Students will be expected to align their development of the Major Project Folio to the presentation slides and discuss the process in how they followed the design process to choose, define, evaluate and justify each of the folio components.

Students should maintain a timeframe for the Presentation to be within an 8-15 minute length. The Presentation will only be completed using Microsoft PowerPoint and this is available free under the DoE Office 365 rollout. Accessible via the DoE student portal. (Turn over the page to view specific criteria on the presentation requirements)

Within the Microsoft PowerPoint program each slide is required to have notes completed on what you will discuss and any other important and relevant information. (Your teacher will demonstrate this aspect of the program for better understanding)

Major Project Folio - Components

The Major Project folio must include the following components:

1. Title Page
2. Table of Contents
3. Statement of Intent
4. Research
 - a. Development of Concepts and ideas
 - b. Selection and Justification of materials, components, processes & other resources
5. Time line Plan: Proposed and Actual
6. Finance Plan: Proposed and Actual (if needed, depends if any actual purchases have been made)
7. Use of appropriate industrial processes and equipment
8. Evidence/Considerations of safe working processes and WHS issues
9. Evidence of a range of communication techniques
 - a. Working drawings
 - b. Material list

Major Project Folio – Milestone Criteria

These milestones are set in place for students to gauge the completion of each folio component to meet time constraint expectations. Please note this is a guide, should you not meet them you should act to maintain compliance.

Week	Milestone
1	Project identified
2	1. Folio prepared to the Statement of Intent stage 2. Research Started 3. Development of Concepts & ideas at 50% completion
3	1. Research at 50% completion 2. Development of Concepts & Ideas completed
4	1. Research completed 2. Working Drawings and cutting list in progress
5	1. Working drawings and cutting list completed 2. Proposed Timeline in progress
6	1. Proposed Time line completed 2. Proposed Finance plan in progress/completed
7	1. WHS considerations 2. Actual Timeline completed for Folio Design, management and communication
8	1. Folio prepared and completed for assessment submission 2. PowerPoint Presentation submitted with notes

Major Project Folio – Presentation Criteria

1. Presentation must be completed using Office 365 PowerPoint
2. Presentation should take between 8-15 minutes
3. Presentation should not be word/literacy content heavy.
4. Each slide should represent the component of the folio you are to present and focus heavily on evaluating and justifying
5. You must have the presentation notes in the “Note” section of each of your slides. This should correlate with each of the slides content and outline the content you are addressing. This can be completed in dot point format.
6. You must hand in your completed Major Project Folio with you PowerPoint Presentation on the due date for this assessment by 9am.

You must be prepared to present your assessment in week 9 (Thursday & Friday) when randomly drawn from the Industrial Technology student cohort list.

Non-completion of Task:

If you know you are going to be away on the day that the task is due, you must make alternative arrangements with your teacher beforehand. If you are suddenly away on the day that the task is due, you must contact your teacher or Head Teacher on your return to school. Documentation will be required in both classes.

Plagiarism:

Plagiarism, the using of the work of others without acknowledgement will incur serious penalties and may result in zero award. Any cheating will also incur penalties.

Failure to follow all the above procedures may result in a zero award.

The policies and procedures that are outlined on the ROSA booklet will be followed regarding the non-completion of assessment tasks.

Outcomes Assessed:

H1.2, H3.1, H3.2, H4.3, H5.1, H5.2, H6.1, H6.2 (Refer to syllabus content handed out in class)

MARKING GUIDELINES – Folio Presentation

Criteria	Mark
<ul style="list-style-type: none"> Addresses all 9 Folio components to an exemplary standard SOI addresses what where how and why components of project Extensive use of images to illustrate options and choices relevant to design chosen Research reflects extensive list of options and ideas relevant to chosen design concept Extensive list of materials, components, processes and resources considered and relevant justifications for each included Proposed timeline plan is realistic and achievable Actual time plan accurate to date (Folio prep, modelling, experimenting etc) Expenditure plan is realistic and accurately costed against materials and resources identified Extensive list of industrial processes, equipment and resources is identified with choices justified All equipment, processes and resources considered and chosen have appropriate WHS considerations and justifications included Extensive concept sketches (min 4) illustrated and annotated (include pros and cons) Justification for chosen concept Accurate working drawings to AS Standards included plus Sketch Up plan Cutting list generated and accurately presented (tabular form) from working drawings Costings for materials accurately extracted from cutting list and transcribed to financial plan. Justification and options for change included All considerations requiring a decision have an appropriate justification included All slides are clear, concise, accurate, concur with folio and appropriate to subject matter 	16-20
<ul style="list-style-type: none"> Addresses 8 Folio components to an exemplary standard SOI addresses what where how and why components of project Some use of images to illustrate options and choices relevant to design chosen Research reflects list of options and ideas relevant to chosen design concept List of materials, components, processes and resources considered and relevant justifications for most included Proposed timeline plan is realistic and achievable Actual time plan accurate to date (Folio prep, modelling, experimenting etc) Expenditure plan is realistic and accurately costed against materials and resources identified List of most (but not all) industrial processes, equipment and resources is identified with choices justified Many but not all equipment, processes and resources considered and chosen have appropriate WHS considerations and justifications included Some concept sketches (min 3) illustrated and annotated (include pros and cons) Justification for chosen concept included Accurate working drawings to AS Standards included plus Sketch Up plan Cutting list generated and accurately presented (tabular form) from working drawings Costings for materials accurately extracted from cutting list and transcribed to financial plan. Justification and options for change included All considerations requiring a decision have an appropriate justification included Most slides are clear, concise, accurate, concur with folio and appropriate to subject matter <p>Candidates may achieve 11-15 marks as indicated above OR by satisfying a combination of the criteria for other mark ranges.</p>	11-15

Industrial Technology Major Project Folio Presentation – Assessment 1

<ul style="list-style-type: none"> • Addresses some Folio components in a limited manner • SOI addresses at least two of what, where, how and why components of project • Limited use of images to illustrate options and choices relevant to design chosen • Research reflects two or less options and ideas relevant to chosen design concept • Limited list of materials, components, processes and resources considered and relevant justifications for some included • Proposed timeline is unrealistic and unlikely to be achieved • Actual time plan does not reflect accuracy to date (Folio prep, modelling, experimenting etc) • Expenditure plan is realistic but not accurately costed against materials and resources identified • Limited number of industrial processes, equipment and resources are identified with some choices justified • Some equipment, processes and resources considered and chosen have appropriate WHS considerations and justifications included • Some concept sketches (min 2) illustrated and annotated (does not include pros and cons) • Justification for chosen concept included • Working drawings not to to AS Standards, no Sketch Up plan included • Cutting list generated but not accurately presented (tabular form) from working drawings • Costings for materials not accurately extracted from cutting list and transcribed to financial plan. Justification and options for change not included • Some considerations requiring a decision have an appropriate justification included • Some slides are clear, concise, accurate, concur with folio and appropriate to subject matter <p>Candidates may achieve 6-10 marks as indicated above OR by satisfying a combination of the criteria for other mark ranges.</p>	6-10
<ul style="list-style-type: none"> • Addresses some Folio components in a limited manner • SOI addresses only two of what, where, how and why components of project • No use of images to illustrate options and choices relevant to design chosen • Research reflects one option and idea relevant to chosen design concept • Limited list of materials, components, processes and resources considered and relevant justifications for some included • Proposed timeline is unrealistic and unlikely to be achieved • Actual time plan does not reflect accuracy to date (Folio prep, modelling, experimenting etc) • Expenditure plan is unrealistic and not accurately costed against materials and resources identified • Limited number of industrial processes, equipment and resources are identified with some choices justified • Limited equipment, processes and resources considered and chosen have appropriate WHS considerations and justifications included • Some concept sketches (min 2) illustrated and annotated (does not include pros and cons) • No justification for chosen concept included • No working drawings or Sketch Up plan included • No cutting list generated from working drawings • No costings for materials extracted from cutting list and transcribed to financial plan. Justification and options for change not included • Few considerations (3 or less) requiring a decision have an appropriate justification included • Slides are not clear, concise, accurate or concur with folio and are not appropriate to subject matter <p>Candidates may achieve 0-5 marks as indicated above OR by satisfying a combination of the criteria for other mark ranges.</p>	0-5

STATEMENT OF INTENT

What is **"THE STATEMENT OF INTENT"**

- This is a **specific** and **detailed** statement of what is to be achieved, where and how it is to be done and why you have decided on this project.
- You should include:
 - Who will use the project?
 - How will it work?
 - What will it be used for once it is completed
 - Specify the parameters (or limits) if any of the design (e.g. size, weight, cost, transportability, function, aesthetics)
 - The goals you expect to achieve on completion of the project (e.g. be able to use it at home or will you sell it for profit or eventually market it.)
 - What are the possibilities? (e.g. can it be made from a variety of materials; can it be used for other applications, could you possibly market it?)
- **The statement of intent provides the foundation for subsequent research and planning, indicates what is contained in the folio and provides information on where the project is heading.**

Questions to Answer???



Copy and paste these questions into your statement of intent folio page and answer them to help identify content.

1. What is the product/project?
2. What is the intention of your project?
3. What are important design features of your project?
4. What limitations will affect your project?
5. What resources will be used for your project?
6. Why do you think this is a good project?
7. Where is it going to go?
8. Who is it for?
9. What skills are required?
10. How will the production of your project affect you and others? (Sociological & Environmental)

The information on the picture may help you with what to write about in your statement of intent

Specification Writing Framework



What is a Specification?

A Specification is a detailed list of requirements that explains what your product should do, be or include.

It should be broken down to state what the product MUST do to be successful, (Essential Criteria) and what you would LIKE it to do to make it more desirable (Desired Criteria).

For example: Two cars both serve the same purpose as a form of transport, but one may have many more desired features, such as; faster engine, alloy wheels and leather seats. They are both still cars though!

KEY CONSIDERATIONS...

These key words cover all aspects of the design of a product. They should be used to help you write more focused specification points.

Some key considerations are often used more than once for different specification points, some will not apply to every project you do, and some specification points might refer to two or more considerations.

When writing specification points try to consider these four aspects:

1. Is it an essential or desired point?
2. Does it relate to a key consideration?
3. Is it as specific as possible?
4. Does it explain the reasons why?

Look at the examples below...

Key Consideration (safety)

Explaining the reasons why

Key Consideration (manufacturing)

Explaining the reasons why

Essential Criteria

Being Specific

Desired Criteria

Being Specific

The product **must** be **safe** and have **no sharp edges** because it is designed for children.

The product **could** be **made** using the **laser cutter** as it is highly accurate.



DEVELOPMENT OF IDEAS

SKETCHING AND IDEAS GENERATION

Concept Development

- Brainstorm, talk to people, go to a library, look at other solutions, sketch your ideas
- Compile a table of 4 possible project ideas. These can be pictures from the internet or drawn sketches. For each of these include Positive, Negative, Interesting.

Idea	Positives	Negatives	Interesting
1.			
2.			
3.			
4.			

- Justify the one you are basing your design on
- Sketch your final design with any modifications you would like to add.

Sketches

- These are generally **well labelled** freehand sketches of your thoughts and designs.
- Eliminate the ideas which are not suitable and make well labelled sketches of your final design.
- These sketches must have all the necessary information for you to be able to draw them accurately as a workshop drawing.
- Sketches must show an evolution of how it changed from initial idea to final idea.



At the end of each page or section include an evaluation so far.
Use some kind of system - eg a different colour, a symbol or font to accentuate it.

RESEARCH

You must research the following:

MATERIALS AND RESOURCES

- Materials – check out timber characteristics and decided on its suitability for your project. Eg: colour, texture/figure, how well it machines and finishes, how well it glues, hardness, availability, cost.
- Fittings and hardware – hinges, knock down fittings, handles, stays, drawer runners
- Accessories – inlay, mouldings.

PROCESSES AND TECHNOLOGIES

- Technologies and processes – what is available (e.g. machinery, power tools, hand tools), what skills need developing, what special techniques does it need and how are they done in industry? Can we do it the same as they do in industry? If not, how will it be done and why.
- **Include information about any outsourcing required.**

THE DESIGN ASPECTS AND MODIFICATIONS OF YOUR WORK

- Ergonomics, aesthetics, anthropometrics, ethics

At the end of each section you should explain the key facts that you have found that will eventually add together to help formulate your final project concept- ON-GOING EVALUATION

NOTE: Document all research done such as:

- Consulting journals, text books, past research, trade catalogues, magazines, internet sites.
- Seeking out previous designs and solutions at shops and galleries.
- Consulting experts – record their comments, ideas.

Calculations and Costings

- Here you should include all calculations which are necessary for the project.
- These may include calculations of quantities, economical cutting of sheet material, cost of materials and hardware, etc.
- Make sure all calculations are necessary for the project and do not include useless calculations simply for the sake of filling in this section.
- Make a CUTTING LIST of your materials. – This will assist you with your finance plan



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SELECTION AND JUSTIFICATION

Marking Criteria:

Outstanding justification of appropriate **materials**, **components**, **processes** and **resources** based upon research and testing.

- Here you are to present logical reasons why you have chosen the materials, the components, the processes and other resources.
- You must provide options in **each category** before you can justify your choice.
- Reasons (=justification) must be given for your choices and these reasons must be based on substantial research and experimentation which should be documented in the Research section of your folio.
- Use the headings shown below so that you can complete this section correctly:

APPROPRIATE MATERIALS		
OPTIONS	CHOICE	JUSTIFICATION OF CHOICE, based on documented research
APPROPRIATE PROCESSES		
OPTIONS	CHOICE	JUSTIFICATION OF CHOICE, based on documented research
APPROPRIATE RESOURCES		
OPTIONS	CHOICE	JUSTIFICATION OF CHOICE, based on documented research



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PROTOTYPING, MODELLING AND TESTING

Experimentation and testing, recording all results and especially the conclusions or findings. Use the following format:

- Experiment/ Test
 - Aim
 - Method
 - Result/s
 - Conclusion/ s
-
- Document the overall conclusion for these trials. Don't pad this section out.
 - Make a recommendation to apply to your final design based on this finding.
 - Build a scale model. Comment on proportion, how doors and drawers fit in and swing or move, any adjustments that may need to be made from this model. Observe things like how far out the drawer needs to go to get past the overhang of the top. Is there enough space to store things, sit under etc.
 - This section could contain sample joints, jigs used etc, to help make a decision about the most favourable or useful.
 - Could contain samples of how different finishes look.

PRODUCTION AND WORKSHOP DRAWINGS

CAD drawings - Use sketch up to produce a model of your project. From here you can import to Layout which will assist you in producing a range of drawings as well as applying measurements to them. Working drawing need to include several different views - Isometric, exploded (specific views of joints) and Orthogonal projection. These need to include all measurements and what scale they are drawn to.

TIMELINE PLAN

You should formulate two (2)

- i) **PROPOSED TIMELINE – Done in Term 4**
- ii) **ACTUAL TIMELINE – Done during production**

Includes:

- **projected order of production – Term 4**
- **estimation of time – Term 4**
- **evaluation of time allocation – Done during production**

Marking Criteria:

Develops comprehensive and appropriate timeline and finance plans

- Here you must use a technique to show evidence of advanced planning.
- This must show
 - The action
 - Estimated and actual time of completion of action
 - Any variation to planned sequence



**At the end of each page or section include an evaluation so far.
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FINANCE PLAN

- **Projected costs – done in Term 4**
- **Actual costs of materials – Done when your purchase**
- **Actual costs of services (if applicable) – Done when required**
- Here you must include the following information:
 - Item
 - Expected cost
 - Actual cost
 - Date of purchase
 - Budget/balance
- Make sure you show in your Finance Plan evidence of **advanced planning**.



**At the end of each page or section include an evaluation so far.
Use some kind of system - eg a different colour, a symbol or font to accentuate it.**

EVIDENCE OF OHS AND SAFE WORKING PRACTICES

Documentation could include completed safety tests, Safe Operating Procedures, safe Work Method Statement and MSDS. Evidence could include photographs/ video showing the use of safe work practices and the use of PPE.

A table overview of the tool, process (what it is used for) WHS safety precautions and WHS risk assessment (using matrix)

			Potential Consequences				
			L6	L5	L4	L3	L2
			Minor injuries or discomfort. No medical treatment or measureable physical effects.	Injuries or illness requiring medical treatment. Temporary impairment.	Injuries or illness requiring hospital admission.	Injury or illness resulting in permanent impairment.	Fatality
			Not Significant	Minor	Moderate	Major	Severe
Likelihood	Expected to occur regularly under normal circumstances	Almost Certain	Medium	High	Very High	Very High	Very High
	Expected to occur at some time	Likely	Medium	High	High	Very High	Very High
	May occur at some time	Possible	Low	Medium	High	High	Very High
	Not likely to occur in normal circumstances	Unlikely	Low	Low	Medium	Medium	High
	Could happen, but probably never will	Rare	Low	Low	Low	Low	Medium

ICT Skills

For this you need to use Information Communication Technology (computer) and word processing software to present your information. You also need to use a CAD (computer aided design) program, to draw up your project

Examples:

Sketchup Pro 2018	Office 365 Word	Office 365 Excel	Office Lens	Adobe Acrobat
Autodesk Fusion 360	Apple Pages	Apple Numbers	Google Docs	Google Sheets