

ORANGE HIGH SCHOOL

ASSESSMENT TASK NOTIFICATION

Subject	HSC Industrial Technology				
Торіс	Design Folio & Presentation				
Class Teacher	T Thompson (Timber) & D Boundy (Metal)				
Head Teacher	D Wait				
Year	12 (HSC)				
Date Given	30 th October 2019				
Date Due	Term 4 Week 8 2019				
Weighting	20%				

Assessment Outline

Students are to produce a two-stage assessment task that involves a Design Folio and an interactive Presentation on the Idea generation & development of their Major Project for the HSC. In weeks 1-8, term 4, students are required to develop their design, management and communication folio of their chosen Major Project, but are to develop a Design Folio to present in front of their class.

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 their choice for their Major Project.

Students should maintain a timeframe for the Presentation to be within an 5-10 minute length. The Presentation will only be completed using Microsoft PowerPoint.

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)

<u>Stage 1 – The Design Folio</u>

The Major Project folio must include the following components:

- 1. Title Page
- 2. Table of Contents
- 3. Statement of Intent
- 4. Development of Concepts/ideas (include Evaluation & Justification of project choices and actual project)
- 5. Research
 - a. Selection and Justification of materials, components, processes & other resources
- 6. Finance Plan: Proposed
- 7. Evidence of a range of communication techniques
 - a. Working drawings (CAD developed drawings using Sketchup and Layout)
 - b. Material list (Tabulated as per teacher demonstration and format)

<u>Stage 2 – Design Folio Presentation</u>

- 1. Presentation must be completed using Office 365 PowerPoint program/app
- 2. Presentation should take between 5-10 minutes
- 3. Presentation should not be word/literacy content heavy.
- 4. Each slide should represent the component of the Design 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 Design Folio with your PowerPoint Presentation on the due date for this assessment by 9am.

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

Major Pro	oject Folio Milestone Criteria					
These mile	stones 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					

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.

<u>Plagiarism:</u>

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
•	Design Folio submitted and produced to an OUTSTANDING level of quality	19-20
•	Addresses all 4 Design Folio components to an OUTSTANDING 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	
٠	Finance plan is realistic and accurately costed against materials and resources identified	
٠	All equipment, industrial processes and resources considered and chosen appropriate WHS	
	considerations and justifications included	
٠	Extensive concept sketches (min 4) illustrated and annotated (include pros and cons)	
٠	Justification for chosen concept	
٠	Accurate working drawings to AS Standards included as a Sketch Up CAD drawing format using	
	Layout Materials Cutting list generated and accurately presented (tabular form) from working drawings	
•	Costings for materials accurately presented (labular form) from working drawings	
•	lustification and ontions for change included	
٠	All considerations requiring a decision have an appropriate justification included	
•	All slides are clear, concise, accurate, concur with Design folio and appropriate to subject matter	
Candic	lates may achieve 11-15 marks as indicated above OR by satisfying a combination of the criteria for	
other	mark ranges.	
٠	Design Folio submitted and produced to a HIGH level of quality	15-18
٠	Addresses most or all the Design Folio components to a HIGH standard	
٠	SOI addresses what where how and why components of project	
•	Some use of images to illustrate options and choices relevant to design chosen	
٠	Research reflects list of options and ideas relevant to chosen design concept	
٠	List of materials, components, processes and resources considered and relevant justifications for	
	most included	
•	Finance plan is realistic and accurately costed against materials and resources identified	
•	All/most equipment, industrial processes and resources considered and chosen appropriate WHS	
•	Some concept sketches (min 3) illustrated and annotated (include pros and cons)	
•	Justification for chosen concent included	
•	Accurate working drawings to AS Standards included plus Sketch Un CAD drawings using Layout	
•	Materials 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	
٠	All considerations requiring a decision have an appropriate justification included	
٠	Most slides are clear, concise, accurate, concur with Design folio and appropriate to subject matter	
Candic	lates may achieve 11-15 marks as indicated above OR by satisfying a combination of the criteria for	
other	mark ranges.	
٠	Design Folio submitted and produced to a SOUND level of quality	11-14
•	Addresses some Folio components in a SOUND manner	
•	SOI addresses at least two or more of what, where, how and why components of project	
•	Noderate use of images to inustrate options and choices relevant to design chosen	
•	List of materials, components, processes and resources considered and relevant justifications for	
•	some included	
•	Finance plan is realistic but moderately accurately costed against materials and resources identified	
•	Some/Most industrial processes, equipment and resources are identified with some choices justified	
•	Some equipment, processes and resources considered and chosen appropriate WHS considerations	
	and justifications included	
•	Some concept sketches (min 2 or more) illustrated and annotated (should include pros and cons)	

Justification for chosen concept included.	
Working drawings to AS Standards, Sketchup CAD drawings satisfactory, Layout sound in use	
• Materials list generated but maybe 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 	
Candidates may achieve 6-10 marks as indicated above OR by satisfying a combination of the criteria for	
other mark ranges.	
Design Folio submitted and produced to a BASIC level of quality	7-10
 Addresses some Folio components in a BASIC manner 	0
 SQL 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 ontions and ideas relevant to chosen design concent 	
 Research reflects two of less options and ideas relevant to chosen design concept Limited list of materials, components, processes and recourses considered and relevant justifications. 	
for some included	
Finance plan is realistic but not accurately costed against materials and resources identified	
• Some/Most industrial processes, equipment and resources are identified with some choices justified	
• Some equipment, processes and resources considered and chosen 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 AS Standards, none or limited Sketchup CAD drawings, Layout limited in	
use or not used.	
Materials 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	
Candidates may achieve 6-10 marks as indicated above OR by satisfying a combination of the criteria for	
other mark ranges.	
 Design Folio submitted and produced to a LIMITED level of quality 	0-6
 Addresses some Design 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	
 Finance 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 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 Materials 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	
Candidates may achieve 0-5 marks as indicated above OR by satisfying a combination of the criteria for	
other mark ranges.	

STATEMENT OF INTENT

What is "THE STATEMENT OF INTENT"

- This is a specific and detailed statement of <u>WHAT</u> is to be achieved, <u>WHERE</u> and <u>HOW</u> it is to be done and <u>WHY</u> 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)





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 3-5 possible project ideas. These can be pictures from the internet or drawn sketches. For each of these include Positive, Negative, Image.

Idea/Name	Image	Positives	Negatives
1.			
2.			
3.			
4.			
5.			
Justification:			

- 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 ANNOTATED (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 - e.g. 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



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

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		



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

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 **SketchUp for Schools** 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 drawings need to include several different views - Isometric, exploded (specific views of joints) and Orthogonal projection. These need to include all dimensions and what scale they are drawn to.

Examples of Sketchup and Layout Drawings



FINANCE PLAN

This plan is written in two parts. The first part is the PROPOSED or PLANNED costs. You will need to fully cost your major project before building it. It is a guess as to how much you believe you will spend – however, it is NOT AN UNINFORMED GUESS. You may need to ring companies that will supply your materials, you might need to visit businesses you intend on using for processes (e.g. spray painting/powder coating) or you might need to visit a shop to see how much decorative paper might be for in your folio.

As with a timeline plan you must comment on your finance plan. It is important that you state why the cost between proposed and actual varies.

The second part of your finance plan will be the actual cost of the items and processes. You must keep a detailed record of all your spending on the major project and associated folio. You do not need to present all receipts and dockets.

The proposed and actual finance plans should be the same in general appearance. It is easier for the markers to compare and contrast the differing expenditure.

- Use a spreadsheet with expenditure items/processes on the left side and columns of proposed and actual spending on the right of this. See the example.
- Use two spreadsheets one proposed spending, one actual. Remember to keep them the same FORMAT.
- Add a column to the first spreadsheet that has a running total of expenditure.

Item or Process	Proposed Cost	Proposed Running Cost	Company Name	Date	Actual Cost	Actual Running Cost	Differential between Proposed & Actual Cost	Differential between Proposed & Actual Running Cost
16m x 50 x 50 x 2mm RHS Steel	\$210	\$210	Edcon	23/11/2006	\$225.10	\$225.10	\$15.10	\$15.10
Pop Rivets (50)	\$6.00	\$216.00	Bunnings	25/11/2006	\$5.80	\$230.90	-\$0.20	\$14.90
Lettering Stencil for Folio	\$5.00	\$221.00	Orange City Newsagency	26/11/2006	\$6.25	\$237.15	\$1.25	\$16.15
No. 10 Shade for Welding Mask	\$12.75	\$233.75	BOC Gas & Gear	26/11/2006	\$11.60	\$248.75	-\$1.15	\$15.00



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

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