Assessment Notification

Faculty: Industrial Arts  Course: Ind. Tech. Timber  Year: 12

Assessment Task: Major Project and Folio Task - 2

Assessment Weighting: 25%  Due: Term 2  Week 2  Date: 08/05/2020

Task Type: Hand in Task  x  In Class Task  □  Practical Task  x

Outcomes assessed (NESA)

H3.1 demonstrates skills in sketching, producing and interpreting drawings
H3.2 selects and applies appropriate research and problem-solving skills
H3.3 applies and justifies design principles through the production of a Major Project
H4.1 demonstrates competency in a range of practical skills appropriate to the Major Project
H5.1 selects and uses communication and information processing skills
H5.2 examines and applies appropriate documentation techniques to project management
H6.1 applies the principles of quality and quality control

Task Description/Overview

Students are to submit the second phase of their Major Project Folio and their practical project progress work for marking.

Detailed Assessment Task Description

(refer to detailed assessment documentation - in Canvas and distributed in class)

Assessment Criteria

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Mark Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outstanding (O)</td>
<td>The student has an extensive knowledge and understanding of the content and can readily apply this knowledge. In addition, the student has achieved a very high level of competence in the processes and skills and can apply these skills to new situations.</td>
<td>85-100</td>
</tr>
<tr>
<td>High (H)</td>
<td>The student has a thorough knowledge and understanding of the content and a high level of competence in the processes and skills. In addition, the student is able to apply this knowledge and these skills to most situations.</td>
<td>60-84</td>
</tr>
<tr>
<td>Sound (S)</td>
<td>The student has a sound knowledge and understanding of the content and has achieved a good level of competence in the processes and skills.</td>
<td>45-59</td>
</tr>
<tr>
<td>Basic (B)</td>
<td>The student has a basic knowledge and understanding of the content and has achieved a basic level of competence in the processes and skills.</td>
<td>20-44</td>
</tr>
<tr>
<td>Limited (L)</td>
<td>The student has an elementary knowledge and understanding in a few areas of the content and still required further work to achieve competence in the processes and skills.</td>
<td>0-19</td>
</tr>
</tbody>
</table>

Satisfactory completion of courses

A course has been satisfactorily completed, when the student has:

- Followed the course developed/endorsed by the NSW Educational Standards Authority (NESA)
- Applied himself/herself with diligence and sustained effort to the set tasks and experiences provided in the course.
- Achieved some or all of the course outcomes.
Year 12 Industrial Technology Assessment Task 2

Timber Products and Furniture Technologies

Major Project Folio Task

Due Date: Term 2, Week 2 - (08/05/2020)

Assessment Outcomes

A student:

H3.1  demonstrates skills in sketching, producing and interpreting drawings

H3.2  selects and applies appropriate research and problem-solving skills

H3.3 applies and justifies design principles through the production of a Major Project

H4.1 demonstrates competency in a range of practical skills appropriate to the Major Project

H5.1 selects and uses communication and information processing skills

H5.2 examines and applies appropriate documentation techniques to project management

H6.1 applies the principles of quality and quality control
Assessment Details

For your Major Project Folio, include the following sections in it. For details on each section, refer to the following:

- Supplied information for each section
- Written/Verbal feedback on task 1
- Marking criteria for each section

Design (20 marks)

A. Statement of Intent
B. Research, analysis and selection of:
   - Designs/design modification
   - Materials
   - Tools/equipment
   - Components
   - Processes
   - Other resources
   - WHS related to: PPE, Materials and Processes
C. Final selection and justification (based on each section of Research done)

Design Development (40 marks)

A. Idea generation from start to final design (from research done)
B. Sketching of final design
C. Materials List for Timber and other resources
D. Working drawings of each part of project

Management & Communication (20 marks)

A. Timeline Plan
B. Finance Plan
C. Use of Industrial processes and equipment
D. Evidence of safe working practices and WHS issues
E. Range of communication techniques
F. Evidence of a range of computer applications
G. Ongoing Evaluation
Production  (20 marks)

This section is based on practical project marking for following aspects:

- Quality of product
- Evidence of a range of skills
- Degree of difficulty
- Links between planning and production
- Evidence of industrial processes
- Use of appropriate materials
- Use of industrial technologies
- Evidence of solutions to problems in production

Useful Resources for this task

- Information on each section of this task (supplied with task)
- HSC Standards Packages 2001
  http://arc.boardofstudies.nsw.edu.au/standards-packs/SP01_15200
- HSC Standards Packages 2002
  http://arc.boardofstudies.nsw.edu.au/standards-packs/SP02_15200
- Sample folios (provided earlier with Task 1)
- Teacher’s written feedback from Task 1
- Tips from Experienced Markers (supplied with this task)
- Marking Criteria for Project Folio
A. **Statement of Intent**

Write a statement of intent which incorporates the following points:

- 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 particular project.
- You should include **who** will use the project, how it will work and what it will be used for on completion.
- Specify the parameters (or limits) if any, of the design (e.g. size, weight, cost transportability, function, aesthetics) and the goals you expect to achieve on completion of the project (e.g. be able to use it for home or be able to sell it for a profit).
- 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.**

B. **Research, Evaluation and Selection**

You need to document all research relating to:

- **Designs/design modification**
- **Materials**
- **Tools/equipment**
- **Components**
- **Processes**
- **Other resources**
- **WHS related to: PPE, Materials and Processes**

- Document all research such as:
  - consulting journals, books, trade catalogues, magazines, websites etc.
  - consulting experts, friends, relatives etc.
  - seeking out previous designs and solutions (e.g. shops, showrooms)
  - experimentation and testing
In this section you should include:
- the type of research (e.g. investigation of previous designs, testing and/or experimentation, research of literature, consulting experts etc.)
- how & where it will be done (when it will be done should appear in your timeline)

You must clearly show what has been gained from the information and how the information will be used. Evaluate all relevant research in relation to your statement of intent.

Do not “pad-out” this section with unrelated trade catalogues, brochures, downloads etc. as it will detract from your folio presentation.

All research & information presented in this section must indicate some interaction by relating its relevance to the project. Websites, downloads, images etc. do not constitute effective research and will earn NO marks, unless you relate it to your project. Information gathered through research must be analysed and based on this analysis your choices or selections must be justified for your choice.

C. Selection and Justification of Resources

Based on the research and analysis of your research, you must provide a list of your final selections and justify your choices in relation to the following areas.

✓ Designs/design modification
✓ Materials
✓ Tools/equipment
✓ Components
✓ Processes
✓ Other resources
✓ WHS related to: PPE, Materials and Processes

This section should be presented with the above subheadings, in the form of tables.

You are required to present well researched reasons why you have chosen the design, materials, tools/equipment, components, processes, WHS and other resources.

Reasons (justification) must be given for your choices and these must be based on the research and experimentation already documented in the research section.

You must list the other options that you researched.
While many decisions are made on the basis of cost, availability and/or convenience, you should try to include justifications that relate to quality, functionality, ease of use etc.

DESIGN DEVELOPMENT

Sketches of ideas and their development should be included for all stages of development. These sketches communicate to the examiners how the final design was determined, or how the original design was modified. Sketches are usually done freehand using an acceptable projection, such as isometric, oblique or perspective, and each sketch must be easily interpreted and clearly annotated.

You need to document and provide evidence of the development of ideas through the following process:

A. **Idea generation from start to final design (from research done)**

- Compile a list of ideas gathered when researching your design – these should be in the form of labelled sketches but can also include a list of written ideas or examples cut from magazines, brochures or the internet as well.
- Select the best ideas and arrange them in the order of preference with the most preferred at the end.
- Each design must be annotated with your thoughts making sure that you are relating your comments to the statement of intent.
- It is important to show the evolution of your design solution so make sure that all sketches are well labelled and easily understood.
- An important note: You can also include hand drawn sketches in this section displaying any ideas that you had.

*Markers look to see there is an appropriate sequence of ideas relevant to the project. These ideas should explain how the major project is to be thought out and constructed.*
B. **Sketching of final design**

- In this section, you should indicate clearly your final design selection for your major project and give reasons in relation to your *statement of intent*.
- You must neatly sketch the final design by hand and annotate the features of the final design.
- A CAD drawing of your final design, showing different features and views is a must for achieving high marks.
- The final design sketches must be comprehensive, outlining all possible features.

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B. **Materials List for Timber and other resources**

- The materials list or the cutting list should be made for each part in a table format. The sections to be used in the table should be part description, size (length, width and thickness), quantity and type of material.
- A timber order sent to the timber mill should also be put in this section.
- A timber mill order can be different to the actual cutting list. This could be due to the size and thickness of available raw material. It could also be due to the combination of different parts from same timber length. Make sure it is properly explained in this section.

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C. **Working drawings of each part of project**

- Do not just submit purchased/pre-made plans.
- You must create detailed working drawings of your final design. These drawings must be accurate and must be used in the production of actual parts in the workshop.
- Working drawings, both 2D and 3D, should be done at least using drawing instruments and preferably using CAD. All technical drawings should be done according to Australian drawing standards.
- It is advisable to include *dimensioned* technical drawings drawn using ruler or CAD (preferably CAD) for each part of the project.
To achieve high marks, it is advisable to create these drawings under appropriate sectioned headings. For e.g. Drawers, Doors, Legs, Top, Sides etc.

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**MANAGEMENT & COMMUNICATION**

**A. Timeline Plan**

Develop a comprehensive and detailed time plan to ensure that your project is completed on time.

- This is a list (or table) of planned steps, you intend to follow to keep the project on schedule. Construct a detailed Gantt chart or other diagram showing both the planned timing of each part of the project. It should include management tasks but more importantly the detailed steps of the production.
- The timeline plan should be flexible to accommodate any future changes.
- Don’t be unrealistic and seek help from your teacher or other experts when establishing your timeline plan; use headings and stages relevant to the major project so that it can be used as a well developed and useful management tool.
- You should include a column to later record the actual timing of the project and leave space to include notes and comments.
- The timeline plan should show:
  - the action
  - estimated time of completion of action
  - actual time of completion of action
  - any variation to the planned sequence

**Important**: Do not make a Gantt chart for the 4 terms on one sheet. This will reduce the size & presents poorly. You must create Gantt chart for each term on one landscaped page.
B. **Finance Plan**

The finance plan is a projection of the cost of materials and other resources.

- You must identify what finance is available (i.e. your budget), estimates of costs, actual costs and progressive balances. Demonstrate a genuine effort to develop a budget based on available finances.
- It is not just a number of receipts collected and totalled at the end of the project.
- High band folios have different finance plans for cost for timber, other materials and cost of printing and creating folios. A good finance plan will have a graph/chart (line chart / column chart / pie chart etc) comparing the estimated and actual costs of these financial plans.

Your finance plan should be presented in a table with the following headings:

- Item
- Expected Cost
- Actual Cost
- Date of Purchase
- Budget Balance
- Comments (a space to make notes)

Your finance plan should be updated regularly and provide you with the opportunity to demonstrate ongoing evaluation.

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**Notes on timelines and finance plans:**

- Make sure that both the timeline plan and finance plan are detailed plans and not just a series of general headings
- Timeline plans and finance plans must include both proposed plans and actual plans that show a true representation of the actual production of the project.
- The practical project should show evidence of the use of the timeline plan by;
  - showing photographs of the planning & construction steps in your folio in the stated planned sequence
  - making sure that any changes to the timeline plan are evident in the practical project (e.g. a variation of design must show up in the folio timeline plan and ongoing evaluation as well as being evident in the practical project)
  - making sure that the changes in the ongoing evaluation explains and justifies any changes to the timeline plan and that both the timeline plan and the ongoing
evaluation coordinates exactly ensuring that dates on invoices, letters, faxes etc. correspond with the dates in the timeline plan

- The practical project should show evidence of the use of the Finance plan by;
  - demonstrating that everything in the finance plan has been used in the project
  - making sure that any variations in cost due to changes in design and other changes, are evident in the project
  - showing any variation in design due to unforeseen costs is evident in the project
  - retaining all receipts & include them in your folio as evidence of all financial costs
  - explaining all changes to the finance plan in the ongoing evaluation

C. **Use of Industrial processes and equipment**

- Provide photographic evidence with explanation of all industrial processes and equipment used in the production of your project.
- Explain the appropriateness of all industrial processes and equipment used compared to other methods available for the production of your project. For e.g. explain why use a chisel mortising machine and not a hand chisel to create a mortise.
- A good technique to aid explanation is to label all photographs and use arrows to highlight important details in the photographs. This technique can be seen in the sample folio provided at the end of this section.
- Make sure that any photographic sequences provided in this section of your folio coordinate with the ongoing evaluation and the timeline plan.

D. **Evidence of safe working practices and WHS issues**

- In this section you should provide photographic and written evidence of safe working practices you followed during the production of your project.
- All photographs should have an adequate explanation of the WHS issues, associated risks, what you did to comply with the issue & possible consequences of non-compliance.
- Evidence of safe working practices and associated risks regarding Personal Protective Equipment aspects of WHS should be directed to machine use, processes, tools & materials.
- Any outsourcing must be done according to WHS requirements and do not include any photographic evidence in your folio of unsafe work practices when receiving outside help with your project.
- Make sure that any photographic sequences provided in this section of your folio coordinate with the ongoing evaluation and the timeline plan.

E. **Range of communication techniques**

- It is important to demonstrate a range of communication techniques in the design, management and communication folio from concept to completion of the major project.
- The bulk of the folio should be word processed or desktop published with a minimum of written work done freehand. Use of colour is highly recommended whenever possible.
- You should use a broad range of creative and appropriate communication and presentation techniques to enhance your folio.
- Pictures from magazines or catalogues etc. should preferably be scanned and inserted into the word processed document. Alternatively if scanning is not possible, pictures should be cut and neatly pasted into the document with a border drawn around each picture. The use of digital photos taken by the student and inserted into the document is highly recommended. **All pictures and graphics in the folio must be adequately annotated.**
- Sketches of ideas should be included for all stages of development to communicate to the examiners how the final design was determined, or how the original design was modified. Sketches are usually done freehand using an acceptable projection, such as isometric, oblique or perspective. **Each sketch must be easily interpreted & clearly annotated.**
- Working drawings, both 2D & 3D, should be done using drawing instruments and preferably using CAD. All technical drawings should be done according to Australian drawing standards.
- The folio must communicate all aspects of the design and management processes related to the major project including word processed data, multimedia presentations, concept drawings, sketches, working technical drawings, models, prototypes, videos, rendered presentation graphics, audio tapes, digital 3D modelling etc.
- It is advisable to include dimensioned technical drawings (preferably CAD), rendered presentation drawings and well annotated freehand concept sketches showing the progressive development of the design and design modifications.
Presentation is important: make sure the folio is ‘user friendly’ and that it flows in the correct sequence with minimum words, lots of headings, a contents section showing page numbers, colourful title pages and abundant coloured, well annotated pictures/illustrations.

In this section, you should list the range of communication techniques used in your folio and explain why each technique was used. Don't forget to include models, prototypes or 3D aids used in the development of your project.

**Presentation**
- Your folio is to be presented in an A3 or A4 plastic sleeve folder.
- Each section must have its own title page and begin on a new page.
- Use the section headings provided.
- Include all reference material used, in a bibliography.
- **Do not** throw away rough or damaged sketches. Present them neatly in your folio.

"Communication Techniques" is being marked as part of your folio and it is important to use a broad range of creative and appropriate communication and presentation techniques to enhance your folio.

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**F. Evidence of a range of computer applications**

- In this section, it is important to list all computer applications used throughout the planning and development of your major project as well as a brief evaluation of their use.
- Suggested headings for this section are:
  - **Type of computer application:** e.g. word processing, CAD drawings, printing, headings, borders, spreadsheets, tables etc.
  - **Application in MP:** e.g. spreadsheets were used for the finance plan; CAD was used for 2D and 3D working drawings etc.
  - **Evaluation of computer use:** e.g. spreadsheets provided a neat table format and the formula facility was convenient because balances were automatically updated.
G. **Ongoing Evaluation**

- Ongoing evaluation is best included at the **end of each section** of the folio as you go. It should be conducted throughout the development of the project. All changes, new ideas, materials, processes and techniques should be documented, evaluated and justified in relation to the *statement of intent*.

- **Documentation of ongoing evaluation** may be done by:
  - Providing separate pages in the folio, providing a title, what was done, when, why and how it was done and conclusion/s in relation to the *statement of intent*.

- **Appropriateness of design and/or design modification**
  - Explain why your final design and/or design modification is appropriate for the intended purpose of the project - *include both positives and negatives* and relate your explanations to the statement of intent.
  - If part of the design was inappropriate, explain to the examiner any modifications which were necessary at any time during the project giving reasons why these modifications were necessary. Document all modifications.

- **Student's evaluation of Major Project & its relationship to the statement of intent**
  - You must explain whether your finished project achieves the goals set out in your statement of intent.
  - Evaluate each goal in the same order in which they were presented in your statement of intent.
  - **Include negatives as well as positives with full explanations.**
PRODUCTION

- Although not specifically required for the folio, it is advisable to include the following as folio headings because:
  - the examiners are required to mark these aspects of the major project as they are part of the major project examination criteria
  - it will direct attention to areas of which they may otherwise not be aware
  - it will ensure that you will not forget to include these aspects in your major project

**Quality of product**

- Students should always aim to achieve a quality product which could be sold commercially.
- Quality should relate to all aspects of the design, planning, management, production and evaluation process.
- You are advised to use quality materials and it is very important to produce an excellent finish on your product - make sure that this is a planned step and not just an after thought.
- In this section, you may wish to direct the examiner to areas of your project which have been recognised by other specialists (e.g. tradespeople, professionals etc.) as being of high quality. Letters from experts should be included in this section.

**Evidence of a range of skills**

- Briefly explain here the range of technical skills which you used in your project.
- Include here the techniques and skills you used to overcome problems which were encountered in the production of your project.
- Explain any hidden complexity of which the examiner may otherwise not be aware - this will help direct the examiner's attention to skills which may not be obvious in your project.
- If you have been taught new skills by a tradesperson or from attending a TAFE course, include a statement describing your training in this section.

**Degree of difficulty**

- The markers will want to see evidence of a project which has a degree of difficulty appropriate to a Year 12 project. Every student should try to incorporate a state-of-the-art aspect into their project as well as industrial processes and equipment.
- Relate the processes and technologies you used for your project to other available processes & technologies and compare aspects such as time, quality, skills developed, and cost.
- Direct the examiner's attention to this aspect and to any other area which you, your teacher or other experts consider as areas of significant difficulty.
**Links between planning and production**

- In this section, you must demonstrate to the examiner evidence that your design, planning and management have been used for the production of your project. This means that your statement of intent, research, ongoing evaluation, timeline plan, finance plan and working drawings must all be accurately reflected in your completed major project.
- Direct the examiner's attention by stating how each of the areas mentioned above are reflected in the finished product. For example if a planned wood joint was substituted by another during production, direct the examiner's attention to the changes made in the ongoing evaluation, timeline plan and the modified working drawings.

**Evidence of industrial processes**

- Direct the examiner to the parts of your project which have been done by processes (i.e. production methods) which are used in industry. An annotated digital image of the processes should be included for each of the declared industrial processes.
- You may even provide evidence that they are in fact industrial processes by including items from catalogues or statements from people in industry.

**Use of appropriate materials**

- You have already justified the use of materials in the design section of your folio so here you should direct the examiner's attention to how good your choice of materials has been in the finished project. **This must also be obvious from inspection of the finished product.**
- Materials include:
  - the manufactured materials used to construct the project such as MDF, mild steel, plywood, glass, edging materials etc.
  - the finishes used such as paint, epoxy resins, polyurethane etc.
  - the materials used for prototypes, models, jigs etc.
  - upholstery materials

**Use of industrial technologies**

- Direct the examiner to the parts of your project which have been done by the use of industrial technologies throughout the project.
- **This refers to the tools, machines and equipment used in industry - not industrial methods or processes as you have already included this above.**
Evidence of solutions to problems in production

- This is the only real means of communicating to the examiners what practical problem solving took place during design and construction.
- Direct the examiner's attention to the problems which you solved during the design and production of the project. This can be done with reference to the ongoing evaluation as well as to the finished product.
- Here students are required to develop solutions to problems discovered during design and construction of the project - not merely explaining how they fixed their mistakes.
- The presentation of jigs, templates, trial mock-ups, models, prototypes etc. is ideal for this section.
- Remember that your project must function as planned in your statement of intent. The examiners will want to see it function, so make sure all problems have been solved to enable the project to function correctly at the time of marking.
TIPS FROM EXPERIENCED MARKERS

General Tips

1. All pages to be numbered - otherwise your folio looks like it is full of add-ins.
2. Use Header and Footer to improve your presentation.
3. Your final design of your Major Project should be drawn as a quality pictorial drawing either by hand or using CAD (Computer Assisted Drafting).
4. The Finance Plan should start with a plan for your project, how much you think it will cost for the components and materials. The actual Finance Plan will detail the exact costs and may be quite different to the original estimates. Evaluating how and why it changed will attract additional marks.
5. Timeline Plan is the very first thing that you do! Another Timeline Plan can be done later if necessary if there are things that you forgot to add or if there is a change in direction with your project.
6. Use a diary or notebook to record the actual work that you have done each day or week. Do not type this out at a later time; include it with your folio.
7. If you are planning a project that requires skills that you are not confident with - research as much as you can and do a couple of practice pieces. Don't be afraid of having a go. Submit all practice pieces as evidence of your research and investigation.
8. Any practice piece you have used to try and get something right is to be displayed with the Major Project and acknowledged in the Folio with an explanation as to what you were trying to do and an evaluation of the process.
9. Take lots of photos—make sure they are relevant and are explained in the Folio. As you take photos it is important that you show detail of both you and the part of the project that you are working on, e.g. a completed joint on the corner of a frame could be one of any number of joints. Make sure you are wearing correct PPE in all photos.
10. If you do work of in industrial setting, e.g. upholstery for a chair, get photos of you doing the work and a note from the owner of the business to verify that you did the work under his/her supervision.
**Tips on Timber Products and Furniture Technologies**

1. Make sure you use an appropriate finish for the intended use of the furniture, don’t use an interior finish on an exterior project.

2. Evaluation of the major project: The evaluation of the major project is usually found at the end of the major project however there should also be ongoing evaluation of the project through the development of the folio. This can often take the form of problem solving techniques and methods of construction that vary from the original plan. The final evaluation of an item of furniture would be more impressive if provided by a professional cabinetmaker rather than the student’s friends.

3. Ongoing evaluation should be evident and can manifest itself in a variety of ways. Changes in design, construction methods or problem solving are all evidence of ongoing evaluation. For example, the development of a process to laminate or steam bend timber often requires a number of changes before success is achieved.

4. Research should relate to the project being undertaken. Types of timbers and finishes, joints construction, lamination and bending techniques are some of the areas of research that relate to furniture construction. The relevance of this research should be clearly stated and justified. The collection of pamphlets and other unexplained research will be ignored. It is expected that the research should relate to the project that is defined in the statement of intent.
<table>
<thead>
<tr>
<th>Marking Criteria for Project Folio</th>
<th>Design</th>
<th>Development</th>
<th>Development of Ideas</th>
<th>Sketching of final design</th>
<th>Materials List for Timber</th>
<th>Working drawings of each part of project</th>
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<tr>
<td><strong>Statement of Intent</strong></td>
<td>20-17</td>
<td>16-13</td>
<td>20-17</td>
<td>20</td>
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<tr>
<td>Clarifies the intent of the major project by explaining what is to be achieved and why</td>
<td>Describes research conducted, which is relevant to the intent of the major project.</td>
<td>Describes the selection and use of appropriate materials, components, processes and equipment.</td>
<td>Describes some aspects of the major project design ideas.</td>
<td>Final design sketch is clear and well annotated. It is neatly hand drawn using drawing instruments.</td>
<td>Proposes basic material lists for various aspects of project.</td>
<td>Working drawings are created for some parts of the final design.</td>
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<td>Research analysis &amp; selection</td>
<td>Final selection and justification of components, processes and other resources.</td>
<td>Analyses and evaluates the development and modification of the major project design ideas.</td>
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**Marking Criteria for Project Folio**

- **Design**
  - **Statement of Intent**
    - Clarifies the intent of the major project by explaining what is to be achieved and why.
  - Design Development
    - Describes research conducted, which is relevant to the intent of the major project.
  - Development of Ideas
    - Describes some aspects of the major project design ideas.
  - Sketching of final design
    - Final design sketch is clear and well annotated. It is neatly hand drawn using drawing instruments.
  - Materials List for Timber
    - Proposes basic material lists for various aspects of project.
  - Working drawings of each part of project
    - Working drawings are created for some parts of the final design.

- **Development**
  - Research analysis & selection
    - Final selection and justification of components, processes and other resources.
  - Development of Ideas
    - Analyses and evaluates the development and modification of the major project design ideas.
  - Sketching of final design
    - Final design sketch is clear and well annotated. It is neatly hand drawn using drawing instruments.
  - Materials List for Timber
    - Proposes basic material lists for various aspects of project.
  - Working drawings of each part of project
    - Working drawings are created for some parts of the final design.

- **Development of Ideas**
  - Research analysis & selection
    - Final selection and justification of components, processes and other resources.
  - Design Development
    - Describes the selection and use of appropriate materials, components, processes and equipment.
  - Sketching of final design
    - Final design sketch is clear and well annotated. It is neatly hand drawn using drawing instruments.
  - Materials List for Timber
    - Proposes basic material lists for various aspects of project.
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- **Sketching of final design**
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- **Working drawings of each part of project**
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    - Proposes basic material lists for various aspects of project.
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<table>
<thead>
<tr>
<th>Management and Communication</th>
<th>20-17</th>
<th>16-13</th>
<th>12-9</th>
<th>8-5</th>
<th>4-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeline plan</td>
<td>Formulates a comprehensive and appropriate timeline</td>
<td>Formulates an appropriate timeline plan</td>
<td>Proposes a basic timeline for aspects of project production</td>
<td>Timelines are without sufficient detail</td>
<td>Timelines are either not appropriate or not evident</td>
</tr>
<tr>
<td>Finance Plan</td>
<td>Formulates a comprehensive and appropriate finance plan</td>
<td>Formulates an appropriate finance plan</td>
<td>Proposes a finance plan for aspects of project production</td>
<td>Finance plans are without sufficient detail</td>
<td>Finance plans are either not appropriate or not evident</td>
</tr>
<tr>
<td>Use of appropriate Industrial processes and equipment</td>
<td>Describes and justifies the selection and use of appropriate industrial processes, equipment and other resources in the development of the major project</td>
<td>Describes the selection and use of industrial processes, equipment and other resources in the development of the major project</td>
<td>Lists industrial processes, equipment and other resources in the development of the major project</td>
<td>Little evidence of consideration of industrial processes and equipment</td>
<td>No evidence of consideration of industrial processes and equipment</td>
</tr>
<tr>
<td>Evidence of safe working practices and WHS issues</td>
<td>Demonstrates the use of a wide range of appropriate safe working practices through photographic or written evidence</td>
<td>Demonstrates the use of some appropriate safe working practices through photographic or written evidence</td>
<td>Demonstrates the use of one or two appropriate safe working practices through photographic or written evidence</td>
<td>Refers to the use of basic safe working practices without photographic evidence</td>
<td>Minimal reference to safe working practices</td>
</tr>
<tr>
<td>Ongoing evaluation</td>
<td>Undertakes ongoing critical evaluation throughout the development and production of the major project &amp; folio documentation</td>
<td>Undertakes regular evaluation during the development and production of the major project and the folio documentation</td>
<td>Undertakes some evaluation during the development and production of the major project and the folio documentation</td>
<td>Undertakes minimal evaluation during the development and/or production of the major project and the folio documentation</td>
<td>Undertakes some elementary evaluation during development and production of the major project &amp; folio documentation</td>
</tr>
<tr>
<td>Appropriate design &amp; Design modification</td>
<td>Assesses the relationship between the design, and modifications if applicable, materials, components and processes in the development of the major project</td>
<td>Includes details of the design, and modifications if applicable, materials, components and processes in the development of the major project</td>
<td>Lists details of the design, and modifications if applicable, materials, components and processes in the development of the major project</td>
<td>Lists some details of the design, materials, components and processes in the development of the major project</td>
<td>Minimal details of the design, materials, components and processes in the development of the major project</td>
</tr>
<tr>
<td>Evaluation of major project and its relationship to the statement of intent</td>
<td>Critically evaluates the major project, in relation to the statement of intent</td>
<td>Documents the major project, and relates the major project to the statement of intent</td>
<td>Basic documentation of the major project with references to the statement of intent</td>
<td>Little evidence of documentation of the major project with reference to statement of intent</td>
<td>Lack of evidence of documentation of major project with reference to statement of intent</td>
</tr>
<tr>
<td>Communication Techniques</td>
<td>Demonstrates a wide range of communication techniques, appropriate to the development of the major project</td>
<td>Demonstrates a range of communication techniques most of which are appropriate to the development of the major project</td>
<td>Demonstrates some communication techniques, which are appropriate to the development of the major project</td>
<td>Demonstrates few communication techniques, appropriate to the development of the major project</td>
<td>Minimal evidence of communication techniques, to the development of the major project</td>
</tr>
<tr>
<td>Computer applications</td>
<td>Demonstrates a wide range of computer applications appropriate to the development of the major project</td>
<td>Demonstrates a range of some computer applications, most of which are appropriate to the development of the major project</td>
<td>Demonstrates some limited computer applications, appropriate to the development of the major project</td>
<td>Demonstrates few computer applications appropriate to the development of the major project</td>
<td>Minimal evidence of computer applications, appropriate to the development of the major project</td>
</tr>
<tr>
<td>Production</td>
<td>20-17</td>
<td>16-13</td>
<td>12-9</td>
<td>8-5</td>
<td>4-1</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Quality of the Product</td>
<td>Demonstrates very high quality in all aspects of the major project production</td>
<td>Demonstrates high quality in most aspects of the major project production</td>
<td>Demonstrates substantial quality in most aspects of the major project production</td>
<td>Demonstrates basic quality in most aspects of the major project production</td>
<td>Demonstrates poor quality in all aspects of the major project production</td>
</tr>
<tr>
<td>Evidence of a range of skills</td>
<td>Evidence of high quality in the application of a wide range of skills and techniques in the planning and production of the major project</td>
<td>Evidence of high quality in the application of most skills and techniques in the planning and production of the major project</td>
<td>Evidence of high but inconsistent quality in the application of skills and techniques in the planning and production of the major project</td>
<td>Evidence of basic quality in the application of skills and techniques in the planning and production of the major project</td>
<td>Minimal or no evidence of quality in the application of skills and techniques in the planning and production of the major project</td>
</tr>
<tr>
<td>Degree of difficulty</td>
<td>A highly demanding project</td>
<td>A project of substantial difficulty</td>
<td>A project of moderate difficulty</td>
<td>A project of minimal difficulty</td>
<td>An undemanding project</td>
</tr>
<tr>
<td>Links between planning and production</td>
<td>Completed project relates closely to what was intended. Close links between actual construction processes, management and thorough research and planning are evident</td>
<td>Completed project relates loosely to what was intended. Minimal links between actual construction processes, management and thorough research and planning are evident</td>
<td>Completed project relates loosely to what was intended. Minimal links between actual construction processes, management and thorough research and planning are evident</td>
<td>Links between planning and production are not clear</td>
<td>Links between planning and production are inappropriate or not evident</td>
</tr>
<tr>
<td>Evidence of industrial processes</td>
<td>Competently applies and uses a wide range of appropriate industrial processes in the production of the major project</td>
<td>Competently applies and uses appropriate industrial processes in the production of the major project</td>
<td>Applies and uses some industrial processes in the production of the major project</td>
<td>Applies and uses a limited range of common industrial processes in the production of the major project</td>
<td>Applies basic processes in the production of the major project</td>
</tr>
<tr>
<td>Use of appropriate materials</td>
<td>Competently applies and uses a wide range of appropriate materials in the production of the major project</td>
<td>Competently applies and uses appropriate materials in the production of the major project</td>
<td>Applies and uses a limited range of materials in the production of the major project</td>
<td>Applies and uses a limited range of common materials in the production of the major project</td>
<td>Makes inappropriate use of materials in the production of the major project</td>
</tr>
<tr>
<td>Use of industrial Technologies</td>
<td>Uses a range of appropriate industrial technologies in the production of the major project</td>
<td>Uses some appropriate industrial technologies in the production of the major project</td>
<td>Uses some industrial technologies in the production of the major project</td>
<td>Uses some basic industrial technologies in the production of the major project</td>
<td>Uses a very limited range of basic technologies in the production of the major project</td>
</tr>
<tr>
<td>Evidence of solutions to problems in production</td>
<td>Demonstrates and critically evaluates how solutions to problems in major project production were addressed</td>
<td>Demonstrates &amp; explains how solutions to some problems in project production were addressed</td>
<td>Demonstrates solutions to some problems in major project production</td>
<td>Demonstrates partial solutions to some simple problems in major project production</td>
<td>Demonstrates inappropriate solutions to some simple problems in project production</td>
</tr>
</tbody>
</table>

**TOTAL** 100