



Thomas Hassall Anglican College

Notification of Year 10 Industrial Technology Assessment Task

Student Name: _____

<p>DUE DATE: Thursday 28th March 2013</p> <p>TOTAL MARKS: Structured 70, Core 85, Extension 100.</p> <p>ASSESSMENT WEIGHTING: 20%</p>
--

Student Declaration:

I acknowledge that this assessment task is all my own work. I declare I have not plagiarised (copied) the work or words of others including; authors of written material and websites

Note: *By placing a tick in the space provided you are indicating, as you would by signing your name, that this is all your own work.*

SUBMISSION INSTRUCTIONS:

- Hand in your assessment task on (or before) the due date to your teacher. Note that the Thomas Hassall Anglican College assessment policy applies to this task. This must be handed in before, but no later than 3.00 pm to the supervising teacher. Supervising Teacher:
- Ensure that your name is clearly marked on all parts of your task (as applicable) and follow your teacher's instruction for submission of your assessment task
- When you hand in your assessment task, you must sign the class list as evidence that you have completed and submitted the set work.
- Always keep an electronic copy of your work. Do not delete your electronic copy of this task until it is marked and returned to you by your class teacher. No USB's will be accepted (unless stated)
- Extensions can only be granted by Mrs White. If an extension is required you must see her prior to the due date
- **TASKS WILL NOT BE ACCEPTED UNLESS ACCOMPANIED BY THIS ASSESSMENT TASK COVER SHEET**

Marker: **Signature:**

Mark: **Date:**

Penalty (if applicable):

**TASK
OUTCOMES**

- | | |
|-------|--|
| 5.1.1 | identifies, assesses and manages the risks and OHS issues associated with the use of a range of materials, hand tools, machine tools and processes |
| 5.1.2 | applies OHS practices to hand tools, machine tools, equipment and processes |
| 5.2.1 | applies design principles in the modification, development and production of projects |
| 5.4.1 | applies and transfers acquired knowledge and skills to subsequent learning experiences in a variety of contexts and projects |
| 5.5.1 | evaluates products in terms of functional, economic, aesthetic and environmental qualities and quality of construction |
| 5.6.1 | describes, analyses and uses a range of current, new and emerging technologies and their various applications |
| 5.7.1 | describes, analyses and evaluates the impact of technology on society, the environment and cultural issues locally and globally |
| 5.7.2 | Elementary CAD Applications |

Task Requirements:

Your report can be completed in either Microsoft Word or Pages on the iPad. Your final report MUST be saved as a PDF document format in you W: (home) drive by the due date.

NO USB DRIVES WILL BE ACCEPTED

Students are reminded to regularly back up and print versions of their work, as computer problems will not be accepted as an excuse for non-submission. Keep your saved PDF file until this task has been marked and handed back to you by your classroom teacher

NO PAPER COPIES WILL BE ACCEPTED

Project Description

Scenario

You are required to design a workshop that consists of Computer Aided Manufacturing (CAM) hardware. You are to establish the Workshop for the first time which should include:

- CAM Machinery
- Computer Hardware
- Workshop equipment. ie, Dust Filtration, Saws, First Aid Kit, PPE, etc.
- Salary for 3 staff
- Industrial unit rent

The CAM workshop is to produce Timber furniture.

Structured Report – 70 Marks

Please see marking criteria for further detail.

1. Title Page

2. Contents Page (use auto 'Table of Content' in MS Word under References tab)

3. Introduction – Provide a detailed description of the needs of your chosen workshop.

4. Gantt Chart – Create a Gantt chart which will illustrate your planned progress and actual progress through this Task. (use a 'Table' in MS Word under Insert tab)

5. Hardware Specification and Costings

- a. What are the requirements of the Location? (council zoning, accessibility, size and features)
- b. What tooling and machinery are required? (CAM machines, CAM accessories, additional machinery)
- c. What are the computing requirements?
- d. What are the training requirements for staff?

6. Ergonomics – Discuss the ergonomic principles which apply, including factors such as:

- a. Room size (workshop, office, lunchroom, bathroom facilities)
- b. Lighting (natural v's artificial, benefits of each, how many hours a day is workshop operational)
- c. Ventilation (windows, extraction, etc)

- 7. Comparison** - Compare and contrast Industrial Processes with those undertaken in the classroom. (training, safety and PPE, types of machinery for specific production methods (consider using a particular project to illustrate differences e.g. yr10 step stool)
- 8. Conclusion** – A brief evaluation of your design. (Evaluate what have you learnt from completing this task? How has the timber furniture industry changed? Where do you see it heading in the future? Does CAM have a future in the timber furniture industry?)
- 9. Bibliography**

1. & 2. Title and Contents Page

Outcome	Criteria	Mark
5.4.1	<ul style="list-style-type: none"> Professionally presented Title Page Auto generated Table of Contents in correct order 	5
	<ul style="list-style-type: none"> Neatly presented Title Page Auto generated Table of Contents 	3-4
	<ul style="list-style-type: none"> Title Page included Typed Table of Contents – limited detail 	1-2
	<ul style="list-style-type: none"> Non-Submission of component. 	0

3. Introduction

Outcome	Criteria	Mark
5.5.1 5.7.2	<ul style="list-style-type: none"> Provides extensive list of needs for CAM equipment including all types of CAM technology appropriate to timber furnishing Provides extensive list of needs for the proposed workshop including access to workshop and lighting. Proposal is accurate and well suited to the intended workshop. 	10
	<ul style="list-style-type: none"> Provides a detailed list of needs for CAM equipment including most types of CAM technology appropriate to timber furnishing Provides detailed list of needs for the proposed workshop including access to workshop and lighting. Proposal is accurate and suited to the intended workshop. 	7-9
	<ul style="list-style-type: none"> Provides a satisfactory list of needs for some CAM equipment including types of CAM technology appropriate to timber furnishing Provides satisfactory list of some needs for the proposed workshop including access to workshop and lighting. Proposal is accurate for the intended workshop. 	5-6
	<ul style="list-style-type: none"> Provides a basic outline of needs for some CAM equipment Provides a general list of some needs for the proposed workshop Some information is inaccurate for the intended workshop. 	3-4
	<ul style="list-style-type: none"> Provides few needs for CAM equipment Provides a limited list of needs for the proposed workshop Information is inaccurate for the intended workshop. 	1-2
	<ul style="list-style-type: none"> Limited or non-Submission 	0

4. Gantt Chart

Outcome	Criteria	Mark
5.2.1 5.4.1	<ul style="list-style-type: none"> Extensive Gantt chart. Neatly presented. Clearly and concisely describes the proposed tasks. Gantt chart proposes realistic timeline and goals. Computer skills evident Shows planned AND actual progress 	5
	<ul style="list-style-type: none"> Satisfactory Gantt chart. Neatly presented. Clearly describes the proposed tasks. Gantt chart proposes realistic timeline and goals. Computer skills evident 	3-4
	<ul style="list-style-type: none"> Limited Gantt chart. Some proposed tasks are not included. 	1-2
	<ul style="list-style-type: none"> Non-Submission 	0

5. Hardware Specifications and Costings

Outcome	Criteria	Mark
	<ul style="list-style-type: none"> • Extensive evaluation and sketch of the location including; council zoning criteria, accessibility by both customers and suppliers including heavy vehicles with materials, workshop size, and features. • Extensive recommendation of CAM & non-CAM machinery and supporting machinery. Includes an extensive justification for recommendations/selections including references (eg website or catalogue). • Produces an extensive list of essential computing requirements including; Software and Hardware. • Outlines all necessary staff training including; CAM (software and hardware) and WHS. 	18 - 20
	<ul style="list-style-type: none"> • Thorough evaluation of the location including; council zoning criteria, accessibility by both customers and suppliers including heavy vehicles with materials, workshop size, and features. • Thorough recommendation of CAM & non-CAM machinery and supporting machinery. Includes a detailed justification for recommendations/selections including references (eg website or catalogue). • Produces a thorough list of essential computing requirements including; Software and Hardware. • Outlines necessary staff training including; CAM (software and hardware) and WHS. 	14-17
5.2.1 5.5.1 5.6.1 5.7.2	<ul style="list-style-type: none"> • Satisfactory evaluation of the location including some of the following; council zoning criteria, accessibility by both customers and suppliers including heavy vehicles with materials, workshop size, and features. • Satisfactory recommendation of CAM & non-CAM machinery and supporting machinery. Gives reasons for recommendations/selections including references (eg website or catalogue). • Produces a satisfactory list of some essential computing requirements including; Software and Hardware. • Outlines some staff training including; CAM (software and hardware) and WHS. 	10 - 13
	<ul style="list-style-type: none"> • Basic evaluation of the location including some of the following; council zoning criteria, accessibility by both customers and suppliers including heavy vehicles with materials, workshop size, and features. • Basic recommendation of CAM & non-CAM machinery and supporting machinery. Reasons for recommendations/selections lack detail • Produces a basic list of some essential computing requirements including; Software and/or Hardware. • Some staff training including; CAM (software and/or hardware) and/or WHS. 	5 - 9
	<ul style="list-style-type: none"> • Limited evaluation of the location including a few of the following; council zoning criteria, accessibility by both customers and suppliers including heavy vehicles with materials, workshop size, and features. • Limited recommendation of CAM & non-CAM machinery and supporting machinery. Reasons for recommendations/selections not given • Produces a limited list of computing requirements including; Software and/or Hardware. • Limited staff training including. 	1 - 4
	<ul style="list-style-type: none"> • Non-Submission of component. 	0

6. Ergonomics/WHS

Outcome	Criteria	Mark
5.7.1 5.7.2	<ul style="list-style-type: none"> A detailed outline of ergonomic considerations have been made including; room sizes (workshop, office, lunchroom and bathroom facilities) A detailed outline of natural light versus artificial. A detailed outline of ventilation requirements is included. 	5
	<ul style="list-style-type: none"> A satisfactory outline of ergonomic considerations have been made including; room sizes (workshop, office, lunchroom and bathroom facilities) A satisfactory outline of natural light versus artificial. A satisfactory outline of ventilation requirements is included. 	3 - 4
	<ul style="list-style-type: none"> A list of ergonomic considerations is included. Information is limited/not necessarily relevant. A limited outline of natural light versus artificial. A limited outline of ventilation requirements is included. 	1 - 2
	<ul style="list-style-type: none"> Non-Submission of component. 	0

7. Comparison

Outcome	Criteria	Mark
5.5.1 5.7.2	<ul style="list-style-type: none"> Extensive comparison between Industry processes and the classroom practices. Comparison makes reference to training, WHS PPE, types of machines and production methods. Comparison makes reference to project completed in class, either past or present. 	7 - 10
	<ul style="list-style-type: none"> Satisfactory comparison between Industry processes and the classroom practices. Comparison makes reference to training, WHS PPE, types of machines and production methods. Comparison makes some reference to project completed in class, either past or present. 	4 - 6
	<ul style="list-style-type: none"> Basic comparison between Industry processes and the classroom practices. Comparison makes some reference to training, WHS PPE, types of machines and production methods. 	1 - 3
	<ul style="list-style-type: none"> Non-Submission of component 	0

8. Conclusion

Outcome	Criteria	Mark
5.4.1 5.5.1	<ul style="list-style-type: none"> Completes a very thorough but brief evaluation of the report presented. Reflects on all elements; Assessment writing experience, hypothesis future of timber furniture industry, hypothesis future of CAM in timber furniture industry. Makes brief evaluation of your design Makes reference to introduction 	7 - 10
	<ul style="list-style-type: none"> Completes a thorough but brief evaluation of the report presented. Reflects on most elements; Assessment writing experiences, hypothesis future of timber furniture industry, hypothesis future of CAM in timber furniture industry. Makes brief evaluation of your design Makes reference to introduction 	4 - 6
	<ul style="list-style-type: none"> Completes a brief evaluation of the report presented. Reflects on some elements; Assessment writing experiences, hypothesis future of timber furniture industry, hypothesis future of CAM in timber furniture industry. Makes no evaluation of your design Makes no reference to introduction 	1 - 3

	• Non-Submission of component	0
--	-------------------------------	---

9. Bibliography

Outcome	Criteria	Mark
5.4.1	<ul style="list-style-type: none"> Detailed bibliography and reference list Includes extensive and diverse resources 	5
5.5.1	<ul style="list-style-type: none"> Sound bibliography and reference list Includes extensive or diverse resources 	3 - 4
	<ul style="list-style-type: none"> Bibliography or cite references 	1 - 2
	<ul style="list-style-type: none"> Non-Submission of component 	0

Core Report – 70 + 15 Marks

Please see marking criteria for further detail.

5. Hardware Specification and Costings

e. Are there WHS considerations?

6. Ergonomics:

d. Work space requirements including zoning around each machine

8. **Conclusion** – A comprehensive evaluation of your design.

5. Hardware Specifications and Costings

Outcome	Criteria	Mark
5.1.1 5.1.2	<ul style="list-style-type: none"> Extensive evaluation of WHS considerations for CAM and non-CAM workshop Equipment and processes. 	5 - 6
	<ul style="list-style-type: none"> Thorough evaluation of WHS considerations for CAM or non-CAM workshop Equipment or processes. 	3 - 4
	<ul style="list-style-type: none"> Limited evaluation of WHS considerations for CAM or non-CAM workshop Equipment or processes. 	1 - 2
	<ul style="list-style-type: none"> Non-Submission of component. 	0

6. Ergonomics

Outcome	Criteria	Mark
5.1.1 5.1.2	<ul style="list-style-type: none"> Comprehensively evaluates specific safe work zones around specific plant equipment and gives a very detailed response of requirements for a small business operating a CAM timber furniture workshop. 	5 - 6
	<ul style="list-style-type: none"> Thoroughly evaluates specific safe work zones around plant equipment and gives a detailed response of requirements for businesses operating CAM equipment. 	3 - 4
	<ul style="list-style-type: none"> Evaluates safe work zones around plant equipment in limited detail. Lists some requirements for businesses operating CAM equipment. 	1 - 2
	<ul style="list-style-type: none"> Non-Submission of component 	0

8. Conclusion

Outcome	Criteria	Mark
5.4.1 5.5.1	<ul style="list-style-type: none"> Completes a comprehensive evaluation of the report presented. Reflects on all elements in detail; Assessment writing experience, hypothesises future of timber furniture industry, hypothesises future of CAM in timber furniture industry. Compiles detailed evaluation of your design Draws links between the task, conclusion and introduction 	3
	<ul style="list-style-type: none"> Completes a comprehensive evaluation of the report presented. Reflects on all elements in detail; Assessment writing experience, hypothesises future of timber furniture industry, hypothesises future of CAM in timber furniture industry. Compiles evaluation of your design Draws links between the task, conclusion and introduction 	1-2
	<ul style="list-style-type: none"> Non-Submission of component 	0

Extensive Report – 70 + 15 + 15 Marks

Please see marking criteria for further detail.

5. Hardware Specification and Costings

- f. An itemised cost list of the system. Include the projected life expectancy of each component.

6. Ergonomics:

- e. Include a 2D or 3D computer aided drawing (CAD).

Extension Response: CAD Model

You are required to create a 2D or 3D engineering drawing of the CAM Workshop and any other offices or workspaces., and computer system.

You may use any CAD package currently installed on the college network, but it is recommended that you complete the assignment using SketchUp.

The CAD model should meet the following criteria:

- Drawn to 1:1 scale
- Each hardware component listed in Part. Particular attention should be given to the size of the work space, along with the positioning and size of the equipment and lighting.

8. Conclusion – An extensive evaluation of your design.

5. Hardware Specifications and Costings

Outcome	Criteria	Mark
5.5.1 5.6.1	<ul style="list-style-type: none"> Includes a comprehensively itemised list of Components CAM and Non-CAM Includes a comprehensive cost list of Components Includes costs of chosen CAM equipment for 4 CAM technologies Includes Unit Rent, Salaries for 3 staff Includes costs for non-CAM tools - itemised 	5 - 6
	<ul style="list-style-type: none"> Includes a detailed list of Components CAM and Non-CAM Includes a detailed cost list of Components Includes costs of chosen CAM equipment for 3 CAM technologies Includes Unit Rent, Salaries for 3 staff 	3 - 4
	<ul style="list-style-type: none"> Includes a cost list of Components Includes costs of CAM equipment for 2 CAM technologies Includes Unit Rent or Salaries for 3 staff 	1 - 2
	<ul style="list-style-type: none"> Non-Submission of component. 	0

6. Ergonomics

Outcome	Criteria	Mark
5.5.1 5.6.1	<ul style="list-style-type: none"> Comprehensive CAD drawing specifying overall dimensions of the workshop. Drawings also illustrate safe work zones around specific plant equipment and amenities. 	5 - 6
	<ul style="list-style-type: none"> Detailed specification or references specifying safe work zones around general plant equipment 	3 - 4
	<ul style="list-style-type: none"> Limited specification or references of safe work zones around general plant equipment 	1 - 2
	<ul style="list-style-type: none"> Non-Submission of component 	0

8. Conclusion

Outcome	Criteria	Mark
5.4.1 5.5.1	<ul style="list-style-type: none"> Completes a comprehensive evaluation of the report presented. Reflects on all elements in comprehensive detail; Assessment writing experience, hypothesises future of timber furniture industry, hypothesises future of CAM in timber furniture industry. Compiles detailed evaluation of your design Clearly demonstrates the links between the task, conclusion and introduction 	3
	<ul style="list-style-type: none"> Completes a comprehensive evaluation of the report presented. Reflects on all elements in sound detail; Assessment writing experience, hypothesises future of timber furniture industry, hypothesises future of CAM in timber furniture industry. Compiles detailed evaluation of your design Clearly demonstrates the links between the task, conclusion and introduction 	1 - 2
	<ul style="list-style-type: none"> Non-Submission of component 	0

Total: _____

Teacher Feedback: (Comment on this task)

Teacher Feedforward: (How you can improve for the next task)
