# Skills Assessment: Plan a complete activity

**Event 2 of 2**

# Trainer & Assessor Marking Guide

## Criteria

### Unit code, name and release number

MEM14005A - Plan a complete activity (1)

\*\*\*This unit sits in the qualifications below – This assessment is not to be amended\*\*

### Qualification/Course code, name and release number

MEM30205 – Certificate III in Engineering – Mechanical Trade (3)

MEM30305 – Certificate III in Engineering – Fabrication trade (4)

\*\*\* Amend the qualification box before distributing to the student. The information here should only contain the qualification the student is enrolled in\*\*

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## Assessment instructions

Table 1 Assessment instructions

| Assessment details | Instructions |
| --- | --- |
| **Instructions for the trainer and assessor** | This is a skill based assessment and will be assessing the student on their ability to demonstrate skills required in the unit.  This skills assessment is in 3 parts:   1. Pre-Task Meeting 2. Practical Task 3. Plan an activity 4. Amend the plan and complete the additional activity 5. Mark out a template to a drawing and specification 6. Assessment Feedback   **Pre assessment**  The student must have successfully completed the knowledge assessment prior to attempting the practical skills assessment.  The Assessor is to ensure the workshop is set up with access to adequate, equipment, tools and work bench space for conducting the skills assessment.  The assessor is to ensure the necessary material is available as specified in the Practical Task description.  The student is to stamp their initials in the completed template.  Any information or measurements shown in italic grey text in Task 1 job planning sheets of this marking guide are only a guide and can be changed to suit the assessor or local conditions.  **Part 1: Pre-Task Meeting**  The student attends a pre-task planning meeting with the assessor. During the meeting the assessor provides detailed information of the assessment tasks necessary for planning the activity.  The student completes a checklist to acknowledge the receipt and understanding of all information provided.  **Part 2: Practical Task**  In Task 1 the student is to identify the requirements, plan and review a written work procedure required to mark out a template from 0.6mm sheet metal as per specifications on Task 1 procedure sheet.  To satisfy the outcomes of the assessment task the student will have to satisfactorily perform the following   * Student reads and refers to all relevant task procedure sheets, job specification sheets, drawings and reference documents to assist with completing the task. * Student identifies tools and PPE required to complete the task and lists them in the *tools and equipment table.* * Student identifies the material requirements from the specification (table 1.0) and creates a *cutting list (table 2.0)* * Student to complete the *job planning and Gantt Chart identifying* all the steps and durations in a sequential order from starting at 1 to complete the manufacture of the template. * Student follows the procedure and plan to mark out the template ready for manufacture at a later date. * Student reviews modifies and adjusts the plan as required.   **Note:** **During the planning operation and amendment will be made to the requirements, where a calculation is required.** The student will be notified of the amendment at Submit Point 1. The student must:   * Carry out the calculations * Complete the *changes and amendments table*   The student must address all the requirements in the observation checklist and all time during the assessment comply with standard operating practices.  Model answers, sample responses or a criteria for each task or activity is provided below.  Use these to support your judgement when determining a satisfactory result.  The student’s response to each question must contain the information indicated in this marking guide in order for their response to be correct. However, if a student provides information other than indicated below, and in the professional opinion of the assessor it is appropriate and meets the intent of the question, it may be considered correct.  Complete the Observation Checklist for each task and activity and the Assessment Feedback to the student. Ensure you have taken a copy of the assessment prior to it being returned to the student.  The Assessment Feedback page must be signed by both the student and the assessor so the student displays that they have received, understood and accepted the feedback.  Ensure the students name appears on the bottom of each page of the submitted assessment. |
| **About this marking guide** | The student’s response to each task or activity must contain the criteria indicated in this marking guide in order for their response to be correct.  All tasks and activities must be completed correctly in order to satisfactorily complete this assessment event.  Assessors will need to make a judgement call as to whether each response meets the criteria based upon the:   * Rules of Evidence:   + Validity – does the answer address the skill required and does the evidence reflect the four dimensions of competency?   + Sufficiency – is the task or activity sufficient in terms of length and depth?   + Currency – has the work been done so recently as to be current?   + Authenticity – is this work the student’s own authentic work? * Principles of Assessment   + Fairness – individual student’s needs are considered in the assessment process   + Flexibility – assessment is flexible to the individual student   + Validity – any assessment decision is justified, based on the evidence of performance of the student   + Reliability – evidence presented for assessment is consistently interpreted and assessment results are comparable irrespective of the assessor conducting the assessment * Dimensions of competency   + Task skills   + Task Management Skills   + Contingency Planning Skills   + Job Role Environment Skills |
| **Student must provide** | PPE: Long sleeve cotton drill shirt, cotton drill trousers, approved safety boots, approved safety glasses.  Pen, calculator. |
| **Assessor must provide** | A fabrication workshop with adequate workbench space.  Hand tools including: centre punch, hammer, scriber, ruler, dividers, hand files, metal letter stamps.  0.6mm sheet metal blank size 310mm long x 220mm wide. |
| **Due date/time allowed/venue** | Time allowed 90 minutes |

## Part 1: Pre-Task Meeting

## The student will attend a pre-task planning meeting with the assessor. During this meeting the student will be provided with the detailed information required to create the plan.

## The student ticks the boxes in the checklist below to confirm they have attended the pre-task meeting with the assessor and the following information has been discussed, received and understood:

**Checklist 1.0**

* A Verbal explanation of the assessment process has been provided by assessor
* I have read all of the documentation provided
* Figure 1.0 Drawing has printed clearly and in full
* Table 1.0 Job Specification has been provided and general tolerance explained
* Table 2.0 Material cutting list identifies material size, type and thickness
* Table 3.0 Organise tools and equipment has been provided for completion
* Table 4.0 Job Procedure Gantt Chart has been provided for completion
* Table 5.0 Task Tracking table has been provided for completion
* Table 6.0 Amendments/Modifications/Changes has been provided for completion
* Table 7.0 Suggestions/Improvements has been provided for completion
* Standard Operating Procedure (S.O.P figure 2.0) Workshop Operations has been provided

Before ticking the boxes above ensure you have gathered and understood all the task related information. **Be sure to discuss and clarify anything you do not understand with your assessor before proceeding.**

## Part 2: Practical Task

To complete this part of the assessment, the student is required to participate in a practical demonstration of how to complete a task.

This practical will be observed by you, or the student can digitally record the task and submit it as evidence.

The student’s responses will be used as part of the overall evidence requirements of the unit.

You should refer to the list of criteria provided in the Observation Checklist to understand what skills the student is required to demonstrate in this section of the assessment. This Checklist outlines the Performance Criteria, Performance Evidence and Assessment Conditions you will be marking the student on.

Once completed the student is required to submit this assessment and the tasks and activities required to be completed to you for marking.

**Contingency Management:**

While undertaking this task a number of unforeseen circumstances may arise. The assessor will have the opportunity to question each learner to gather an understanding of how the student will respond to these events. Below is a table with examples of possible questions and acceptable responses.

The assessor has the opportunity in the observation checklist to record relevant questions and responses in the table ***“Table 3 Additional Questions”***

Table 4 Unforeseen Circumstances

|  |  |  |
| --- | --- | --- |
| Scenario | Assessors question | Acceptable students response |
| Power failure in workshop | What is the correct action in the case of power failure? | *Notify assessor of failure.*  *Move to safe location* |
| Equipment failure | What do you need to do if the equipment fails and prevents you from carrying out the task? | *Notify assessor of failure*  *Arrange access to replacement equipment* |
| Emergency evacuation | What do you do if an emergency evacuation drill happens during the assessment? | *Follow standard emergency evacuation procedure* |

**Task 2: Plan and mark out a sheet metal template**

The student is required to carry out and record the required steps in the marking out of a sheet metal template as detailed Figure 1.0 Sheetmetal Template Drawing.

The plan must cover the steps to mark out the sheetmetal template form task identification through to completion including any modifications required.

Simulated Environment Conditions

***Note: The assessor is to ensure the student is exposed to equipment to ensure competency is applied in new and different situations***

The assessment is to be carried out in the workshop complying with all WHS requirements and compliance with Standard Operating Procedures (Figure 2.0: Workshop Operations attached).

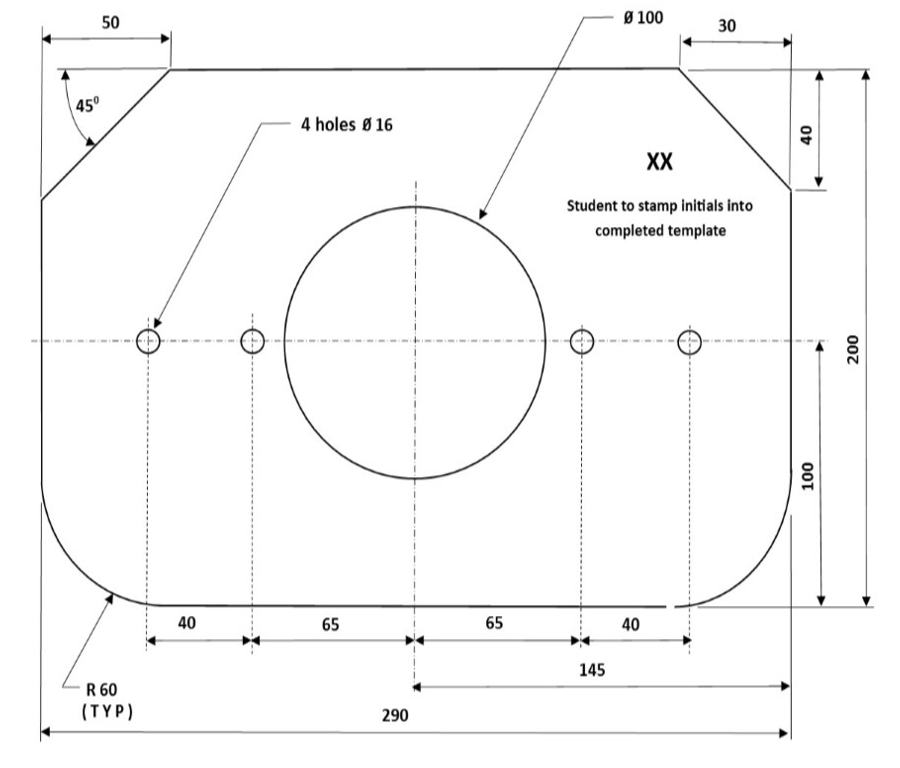
**Sheet Metal Template Specifications**

* Material 0.6mm sheet metal. No specific grade
* Tolerance on measurements + - 1.0 mm UNO
* All measurements in mm UNO
* Student to stamp initials into template as shown on plan.
* Template to be finished all sharp edges removed

The assessment including the marking out of template and documentation is 90 minutes.

**Note:** Included in the 90 minute duration is a requirement to complete an amendment to the plan. This amendment will be issued to the student at Submit Point 1. The student will be required to modify the plan and carry out a mathematical calculation.

**Job Name:** Sheet metal template



**Figure 1.0 Sheet Metal Template** ©TAFE NSW 2018

#### Table 1.0: Job Specifications:

|  |  |  |  |
| --- | --- | --- | --- |
| Quantity | Material | Finish | General Tolerance |
| *1 off* | *Template to be marked out on 0.6mm Sheet metal 310mm x 210mm* | *Remove all sharp edges* | *+/- 1.0mm U.N.O* |

#### Table 2.0 Cutting list (referred to as a material list in the assessment)

Complete the following table listing material required to mark out the sheet metal template.

|  |  |  |
| --- | --- | --- |
| Material | Dimensions | Quantity |
| *0.6mm sheet metal* | *310mm x 220 mm* | *1* |

#### Table 3.0: Organise tools and equipment

Complete the following table listing all equipment required to mark out and letter stamp the sheet metal template.

|  |  |
| --- | --- |
| Item # | Tools and Equipment |
| 1 | *300mm steel rule* |
| 2 | *Scriber* |
| 3 | *Dividers* |
| 4 | *Centre punch* |
| 5 | *Ballpein Hammer* |
| 6 | *Letter stamps* |

|  |  |
| --- | --- |
| Workshop PPE Requirements (Refer to Figure 2.0 Workshop Operations SOP) | |
| 1 | *Steel cap Boots* |
| 2 | *Overalls or cotton drill pants and long sleeve shirt* |
| 3 | *Safety Glasses* |

**Activity:** Complete the following information on the Job procedure and Gantt chart required to produce the sheet metal template.

#### Table 4.0: Job Procedure Gantt Chart

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Step # | Tasks | | | | Planned Task Durations ( 90 minutes allocated) | | | | | |
| **Job Name:** | | **Material Size:** | **Required Finish:** | **Tolerance:** | 15 | 15 | 15 | 15 | 15 | 15 |
| 1 | *Pre assessment meeting and instructions* | | | | *X* | *X* |  |  |  |  |
| 2 | *Interpret drawing and specifications* | | | |  | *X* | *X* |  |  |  |
| 3 | *Identify material, tools and equipment* | | | |  | *X* | *X* |  |  |  |
| 4 | *Identify and list tools and equipment required and complete tables* | | | |  |  | *X* |  |  |  |
| 5 | *Complete tables 2.0, 3.0* | | | |  |  | *X* |  |  |  |
| 6 | *Submit plan for checking* | | | |  |  | *X* |  |  |  |
| 7 | *Complete additional task* | | | |  |  | *X* |  |  |  |
| 8 | *Source material and remove sharp edges mark out template as per specifications* | | | |  |  |  | *X* | *X* |  |
| 9 | *Establish datums and mark out to drawing tolerances* | | | |  |  |  | *X* | *X* |  |
| 10 | *Check marking out to drawing centre punch, letter stamp and witness as required* | | | |  |  |  | *X* | *X* |  |
| 11 | *Record time taken to complete each task* | | | |  |  |  |  | *X* |  |
| 12 | *Submit completed template to assessor* | | | |  |  |  |  |  | *X* |

#### STOP, CHECK AND SUBMIT POINT 1

Use the checklist below to confirm:

**Checklist 2.0**

* I have completed Table 2.0 Organise Tools and Equipment including PPE requirements
* I have completed Table 3.0 Job Procedure Gantt Chart including:
  + A list of tasks required to complete the plan
  + Each task is numbered in the step column
  + Each task has been allocated a duration marked with an X
  + The total duration of the plan does not exceed 90 minutes
* I have checked my progress against the planned duration and on track or need to make adjustments in order to complete in time

Once the checklist above is complete submit to your assessor for checking. **DO NOT PROCEED UNTIL YOUR PLAN HAS BEEN CHECKED BY YOUR ASSESSOR.**

#### Plan Modification

At this point the assessor checks the plan to check table 2.0 and 3.0 have been completed and adds a new task.

#### Amend the plan

As part of the planning process the student is required to complete the following material cost estimate from the information provided below:

* Material Sheet Dimensions: 1800 x 900 x 0.6mm sheetmetal
* Material Sheet Cost: $88.00
* Template Material Dimensions: 310 x 220 mm x 0.6
* Number of Templates cut from sheet: 22

What is the cost of material for 1 template?

= Material Sheet Cost

Number of Templates cut from sheet

= $88.00

22

= $4:00 per template. Copy this answer to table 6.0

#### Table 5.0: Time Management/Task Tracking

Complete the following table by recording time taken to complete specified tasks.

|  |  |  |
| --- | --- | --- |
| Task | Planned Duration | Actual Duration |
| Pre-Assessment Meeting | 30 minutes (from Gantt Chart) |  |
| Planning the tasks | *Add times* | *Add times* |
| Checking and submitting the plan | *Add times* | *Add times* |
| Completing additional mathematical task | *Add times* | *Add times* |
| Obtain materials and equipment | *Add times* | *Add times* |
| Mark out template as per drawing specifications | *Add times* | *Add times* |
|  | **TOTAL**: **90 minutes** (allocated to assessment) | **TOTAL:** *Add times* |

#### Table 6.0: Amendments/Modifications/Changes

Complete the following table listing all amendments, modifications changes required to produce the sheet metal template.

|  |  |
| --- | --- |
|  | Amendment/Modification/ Change Description |
| *1* | *Calculate the cost of material per template* |
|  | *The cost of material for 1 template = $4:00* |

#### Table 7.0: Suggestions/Improvements

Complete the following table listing any suggestions or improvements to improve the plan or procedure to produce the sheet metal template.

|  |  |
| --- | --- |
| Description | Suggestion/Improvement |
|  | ***Possible answers could include*** |
| *Material* | *Material supplied pre-cut to overall dimension* |
| *Plan/Procedure* | *Plan may have modifications to sequence or added items to reduce errors improve time and quality* |

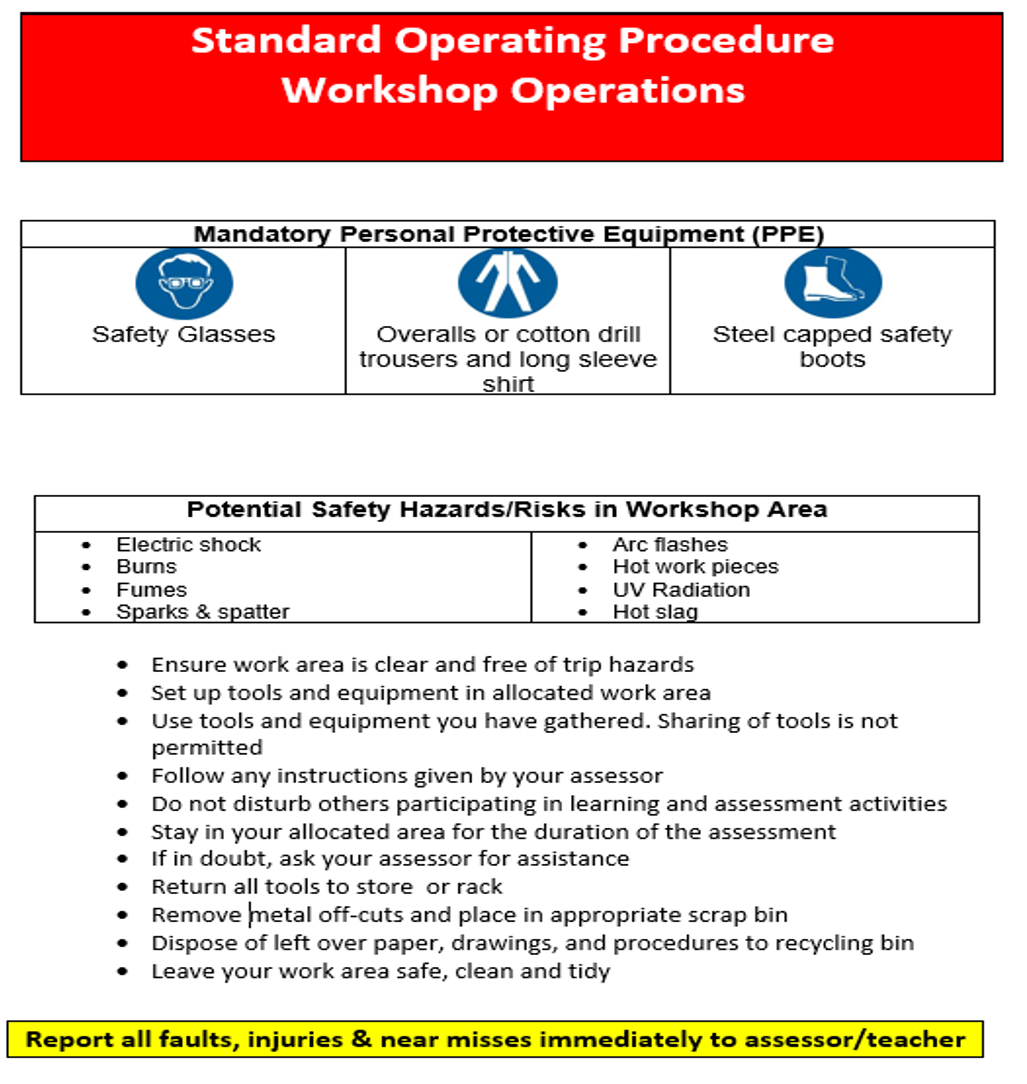
STOP, CHECK AND SUBMIT POINT2

Use the checklist below to confirm:

#### Checklist 3.0

* I have completed the additional task as detailed
* I have completed table 6.0 summarising the additional task and calculated material cost
* I have provided improvements that could be made to my plan in table 7.0
* I have entered planned and actual durations for tasks into table 5.0
* The I have completed the template marking out to drawing tolerances
* I have letter stamped the template with my initials
* I have finished the cut edges on the template as specified in table 1.0

#### Figure 2.0 SOP Workshop Operations



## Part 2: Practical Task: Observation Checklist

The Observation Checklist will be used by you to mark the student’s performance in any of the previous three event types. Use this Checklist to understand what skills the student is required to demonstrate in this section of the assessment. This Checklist outlines the Performance Criteria, Performance Evidence and Assessment Conditions you will be marking the student on. All the criteria must be met. The student’s demonstration will be used as part of the overall evidence requirements of the unit. You may ask questions while the demonstration is taking place or if appropriate directly after the task/activity has been completed. These questions and responses are to be documented in the ***Table 3 Additional Questions*** table following the observation checklists

Table 2 Observation Checklist

| Item # | | Task requirements | S | U/S | Assessor Comments (Describe the student’s ability in demonstrating the required skills and knowledge) |
| --- | --- | --- | --- | --- | --- |
| 1 | Student demonstrates contingency planning skills during or after Task 2: Plan and mark out sheetmetal template.   * Respond to verbal questions asked by assessor | |  |  | Refer to the “*Table 4* *Unforeseen Circumstances*” for examples of unforeseen circumstances. If any of these situations or similar has occurred during the observation. Document the issue (e.g. Power failure) and the student response.  If no opportunity occurred to observe contingency planning skills a minimum of one verbal question must be asked and response documented in “additional responses “table below |
| 2 | Task outcomes and objectives are discussed and clarified with the assessor:   * *Student participates in pre task production meeting with assessor and completes Checklist 1.0 confirming the following has been discussed and understood:* * *Drawing (figure 1.0) details and tolerances* * *Tables 1.0 to 7.0* * *Standard Operating Procedures (figure 2.0)*   **Note:** during this meeting inform the student, there will be an additional activity given at submission point 1. | |  |  | *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome.* |
| 3 | Standard Operating Procedures (SOP) Job procedure sheets, job specification sheets, drawings, reference documents are referred to and used to develop the plan.  Student refers to, and considers the following documents   * *SOP (Figure 2.0)*   *Identifies PPE requirements in SOP and details in Table 3.0*  *Adheres to SOP during template marking out process*   * *Job specifications (table 1.0)*   *Submits template to correct cut size and finish as specified Table 1.0*   * *Drawing (Figure 1.0)*   *Template is marked out to dimensions as detailed on Figure 1* | |  |  | *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome.* |
| 4 | Identify material requirements as per job specifications to produce sheet metal template.   * *Student completes: Table 2.0: Cutting list with correct sizes from Table 1.0 Job Specification* | |  |  | *Material requirements correctly listed as per Table 2.0*  *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome.* |
| 5 | Student refers to job procedure and detailed drawing to identify and complete a list of appropriate tools and equipment required to complete the task.   * *Student completes Table 3.0 Organise tools and equipment listing all tools and PPE required for the marking out task.* | |  |  | *Tools and Equipment correctly listed as per Table 3.0*  *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome.* |
| 6 | A detailed and sequenced job procedure is completed for the marking out of the sheet metal template.   * *Student completes Table 4.0 Job Procedure Gantt Chart:* * *Job steps are separated and listed into separate tasks* * *Each task is in sequential order* * *Each task has a duration allocated* * *Total duration of tasks does not exceed 90 minutes* | |  |  | *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome.* |
| 7 | Material is obtained and marked out as per job specifications using appropriate tools and equipment as identified.   * *Student interprets drawing and specification:* * *Sources correct material* * *Cuts material to size specified in Table 1.0 Job Specification* * *Marks out template using own equipment listed in Table 3.0 Organise tools and equipment* | |  |  | *All measurements and calculations are checked correct.*  *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome.* |
| 8 | Plan is followed, tasks are prioritised and time is managed and recorded for the purpose of review.   * Student completes: * Checklist 1 STOP, CHECK, SUBMIT POINT 1 * Table 4.0 Job Procedure Gantt Chart * Table 5.0 Task Tracking table | |  |  | *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome.* |
| 9 | Template that has been marked out, is checked against engineering drawing for conformance to specifications.   * Student completes checklist 3.0   at STOP, CHECK AND SUBMIT POINT 2 | |  |  | *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome.* |
| 10 | Amendments, modifications or changes to plan are identified and recorded as required.   * Student completes table for amendments, modifications and changes Table 6.0 Amendments/ modifications/changes: * Summary of extra task is detailed * Correct answer for material cost calculation given | |  |  | *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome.* |
| 11 | Modified plan is reviewed for accuracy. Suggestions and modifications are listed.   * Student completes the information in the table for amendments, modifications and changes * Table 7.0: Suggestions/Improvements | |  |  | *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome.* |

|  |
| --- |
| Additional Questions |
| Assessors may ask additional questions to clarify student understanding. List here any additional questions that were asked during this assessment event.  *Record all additional questions that were asked of the student during the assessment event.* |
| **Student Reponses to Additional Questions** |
| List here the student responses to any additional questions that were asked during this assessment event.  *Record the student responses to any additional questions that were asked during this assessment event.* |

## Table 3 Additional Questions