# Project Assessment 2

**Assessment event 3 of 3**

## Criteria

### Unit code, name and release number

MSL913004 - Plan and conduct laboratory/field work (1)

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

MSL30118 - Certificate III in Laboratory Skills (1)

## Student details

### Student number

### Student name

## Assessment Declaration

* This assessment is my original work and no part of it has been copied from any other source except where due acknowledgement is made.
* No part of this assessment has been written for me by any other person except where such collaboration has been authorised by the assessor concerned.
* I understand that plagiarism is the presentation of the work, idea or creation of another person as though it is my own. Plagiarism occurs when the origin of the material used is not appropriately cited. No part of this assessment is plagiarised.

### Student signature and Date

Version: 1.0

Date created: 08/08/2019

Date modified: 07/02/2020

For queries, please contact:

Innovative Manufacturing, Robotics and Science SkillsPoint

Hamilton Campus

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RTO Provider Number 90003 | CRICOS Provider Code: 00591E

This assessment can be found in the: [Learning Bank](https://share.tafensw.edu.au/share/access/searching.do?doc=%3Cxml%2F%3E&in=P7ac4831b-430a-4b8d-8b56-f7b32ed5b9cf&q=&type=standard&sort=rank&dr=AFTER)

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## Assessment instructions

Table 1 Assessment instructions

| Assessment details | Instructions |
| --- | --- |
| **Assessment overview** | The objective of this assessment is to assess your knowledge and performance as would be required to:   * Plan and organise daily work activities * Complete allocated work * Identify and resolve work problems * Work in a team environment * Update knowledge and skills as required |
| **Assessment Event number** | 3 of 3 |
| **Instructions for this assessment** | This is a project based assessment and will be assessing you on your knowledge and performance of the unit.  This assessment is in 2 parts and includes an Assessment Feedback form:   1. Product 2. Assessment Checklist   The Assessor will return your Project 1 Assessment Task with any corrections at the beginning of the session. All paperwork must be submitted at the end of each laboratory session. It will be returned in the following scheduled session. |
| **Submission instructions** | On completion of this assessment, you are required to upload it or hand it to your assessor for marking.  Ensure you have written your name at the bottom of each page of this assessment.  It is important that you keep a copy of all electronic and hardcopy assessments submitted to TAFE and complete the assessment declaration when submitting the assessment. |
| **What do I need to do to achieve a satisfactory result?** | To achieve a satisfactory result for this assessment all questions must be answered correctly and the completed Laboratory sheets submitted. |
| **What do I need to provide?** | Calculator, pens, PPE (safety glasses, enclosed shoes, laboratory coat) |
| **What the assessor will provide?** | Marked Project Assessment 1, PPE for self (safety glasses, enclosed shoes, laboratory coat), computers loaded with Excel, all equipment required by students in their plan |
| **Due date and time allowed** | TBA / 3 x 2 hour sessions in the laboratory with 15 minutes reading time of this Assessment prior to the commencement of session 1. |
| **Assessment feedback, review or appeals** | In accordance with the TAFE NSW policy *Manage Assessment Appeals,* all students have the right to appeal an assessment decision in relation to how the assessment was conducted and the outcome of the assessment. Appeals must be lodged within **14 working days** of the formal notification of the result of the assessment.  If you would like to request a review of your results or if you have any concerns about your results, contact your Teacher or Head Teacher. If they are unavailable, contact the Student Administration Officer.  Contact your Head Teacher for the assessment appeals procedures at your college/campus. |

## Specific task instructions

The instructions and the criteria in the tasks and activities below will be used by the assessor to determine if you have satisfactorily completed this assessment event. Use these instructions as a guide to ensure you demonstrate the required knowledge.

You will be provided with your marked Project Assessment 1 containing your planning information for the tasks to be completed during the three scheduled laboratory sessions.

The three laboratory tasks required in order to complete the necessary paperwork are:

**Task A** (to be completed individually) Determination of the % composition of a sample of sand, salt and sawdust.

**Task B** (individual) Monitor and record the temperature of the laboratory water bath (every 45 minutes from the beginning of the session and at least two measurements being taken) and complete the control chart provided.

**Task C** (team based) Urgent analysis of four samples for % sugar by refractometer along with quality control check samples of 7.5% and 12.5%. The results must be ready within 45 minutes of arrival at the laboratory. You will be provided with the two QC sugar solutions and 4 unknown sugar solutions at some time during the Task. Your team has 45 minutes to provide the value for each unknown solution. The team will be required to prepare the standards as per your method. You are permitted to use Excel for the calculation or graph the standards.

All laboratory equipment you have identified in your plan will be available for use during the sessions (if there has been a change made by the Assessor to your plan you will be advised).

Ensure you leave yourself enough time prior to the end of the session to make the work area safe and to clean up and put equipment back.

## Part 1: Product

You have 15 minutes to read the task prior to the commencement of the Laboratory Session.

To complete this part of the overall assessment, you will be required to:

* complete the scheduled tasks on each of the two 2 hour sessions allocated following your plan prepared for Assessment 2 (with a third session for the finalisation of Task A if required)
* have completed tasks individually and as part of a team
* complete the documentation attached to this Assessment.

Once completed you will need to submit this assessment to your assessor for marking.

**Laboratory Task:**

Your Assessor will observe you completing your plan for Tasks A, B and C.

**Note:** At all times safety is paramount and the Assessment will be stopped for any safety issues.

You should obtain your Project 1 Assessment from your Assessor. You should follow the plan you documented for the individual tasks and that were documented after discussions with you team for the team task. There are 3 sessions available for the completion of the tasks.

**Session 1:**

Commencement of Task A, Determine % Composition of a Sand, Salt and Sawdust mixture.

One completion of Task B, Monitoring and recording the temperature of the laboratory water bath.

One completion of Task C, Determine % sugar in urgent production sample.

Completing applicable parts of the Laboratory Record Sheet and Laboratory Data and Calculation sheet.

**Session 2:**

Further work on Task A.

One completion of Task B, Monitoring and recording the temperature of the laboratory water bath.

One completion of Task C, Determine % sugar in urgent production sample.

Completing applicable parts of the Laboratory Record Sheet and Laboratory Data and Calculation sheet.

**Session 3:**

Completion of Task A.

Additional occurrence of B or C if required.

Completion of Laboratory Task Review and any remaining sections on the Laboratory Record Sheet and the Laboratory Data Calculation Sheet.

**Physical evidence required:**

1. Laboratory Report Sheet (to be updated at each session
2. Laboratory Data and Calculation sheet (to be updated at each session)
3. Completed Laboratory Task Review sheet (to be completed after the final session)
4. **Laboratory Report Sheet**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date: |  | Analyst |  | |
| **Task A** | Determine % Composition | | | |
| Sample Code |  | Sample Description | |  |
| % Sand |  | Problems noted/resolution/change of procedure | | |
| % Salt |  | Problems noted/resolution/change of procedure | | |
| % Sawdust |  | Problems noted/resolution/change of procedure | | |

**Task B** Monitoring of water bath temperature

*All information contained in this document is confidential. The document is issued without alteration*

**Laboratory Report Sheet**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Task C | Determine % Sugar | | | | | |
| Date | QC 7.5% | QC 12.5 | Sample 1 | Sample 2 | Sample 3 | Sample 4 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Analyst comments/notes:  Analyst signature:  *All information contained in this document is confidential. The document is issued without alteration* | | | | | | |

1. **Laboratory Data and Calculation Sheet**

**Task A** (Completed only once)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Sample 1 | Sample 2 | Sample 3 |
| 1. Mass of sample taken (~5g) |  |  |  |
| 1. Mass of evaporating basin (g) |  |  |  |
| 1. Mass of evaporating basin + salt (g) |  |  |  |
| 1. Mass of salt |  |  |  |
| 1. Mass of filter paper (g) |  |  |  |
| 1. Mass of filter paper + sawdust (g) |  |  |  |
| 1. Mass of sawdust (g) |  |  |  |
| 1. Mass of filter paper (g) |  |  |  |
| 1. Mass of filter paper + sand (g) |  |  |  |
| 1. Mass of sand (g) |  |  |  |
| 1. % sand = j / a x 100 |  |  |  |
| 1. Ave % sand = (sum % sand) / 3 |  | | |
| 1. % salt = d / a x 100 |  |  |  |
| 1. Ave % salt = (Sum % salt) / 3 |  | | |
| 1. % sawdust = g / a x 100 |  |  |  |
| 1. % sawdust = (sum % sawdust) / 3 |  | | |

In this section you are to record briefly any instances where you needed to change your plan:

**Laboratory Data and Calculation Sheet**

**Task B**.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Water Bath Identification Code | | |  | | |
| **Date:** | | | **Date:** | | |
|  | **Time** | **Temp (oC)** |  | **Time** | **Temp (oC)** |
| **1** |  |  | **3** |  |  |
| **2** |  |  | **4** |  |  |

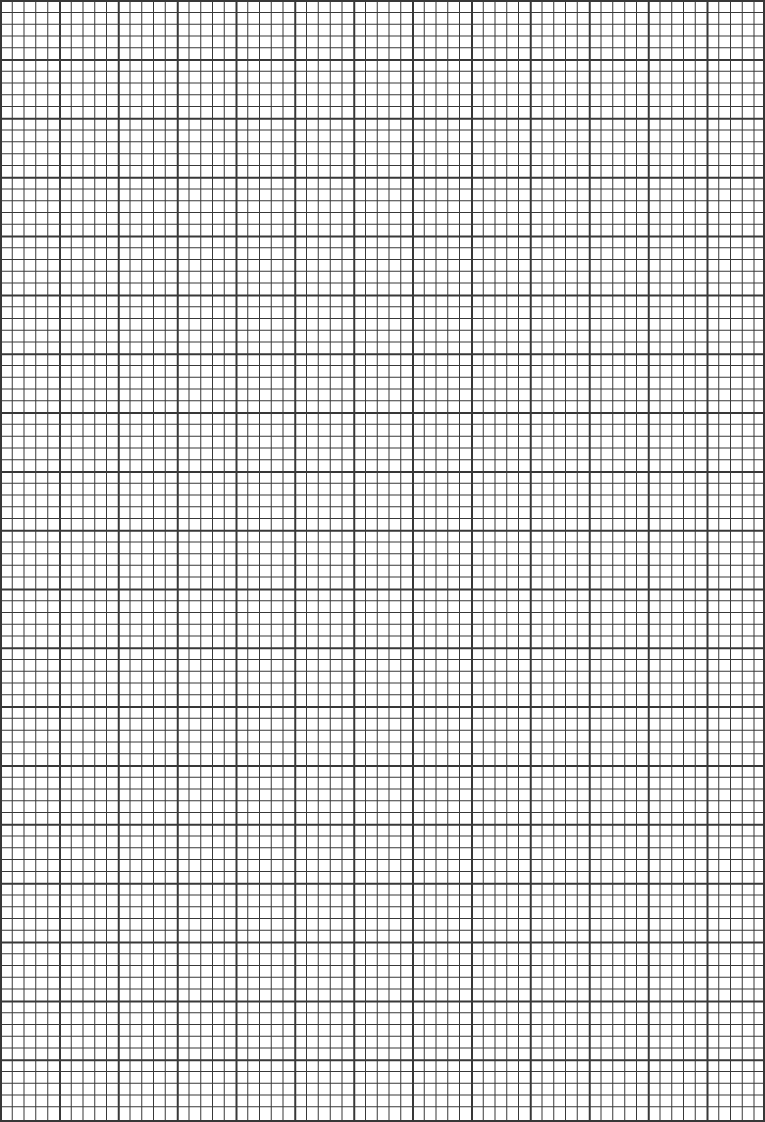
**Laboratory Data and Calculation Sheet**

**Task C** Determine % Sugar in Production Sample

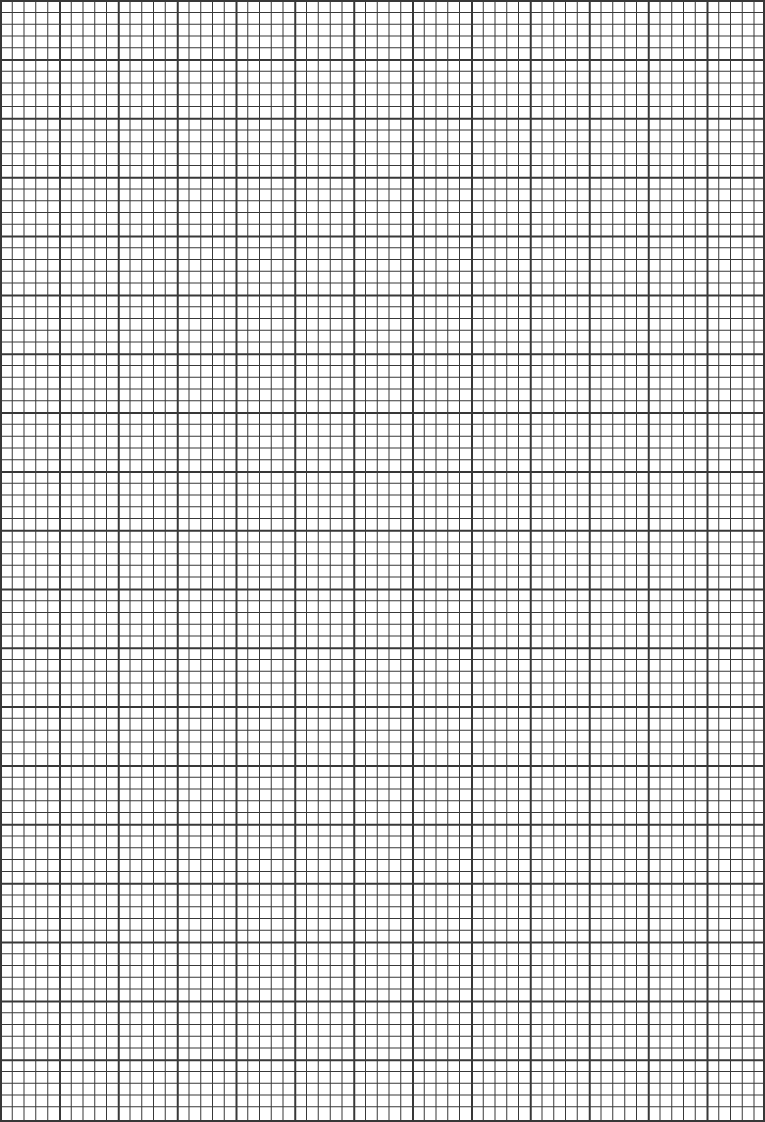
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Team members |  | |  | |
| Date |  | |  | |
| Time of sample arrival |  | |  | |
| Time sample result published |  |  |  |  |
| Standard/ Sample | Concentration % sugar | RI | Concentration % sugar | RI |
| 5 | 5 |  | 5 |  |
| 10 | 10 |  | 10 |  |
| 15 | 15 |  | 15 |  |
| QC 7.5% |  |  |  |  |
| QC 12.5% |  |  |  |  |
| Sample 1 |  |  |  |  |
| Sample 2 |  |  |  |  |
| Sample 3 |  |  |  |  |
| Sample 4 |  |  |  |  |
| Equation of line if using Excel |  | |  | |
| R2 value |  | |  | |

**Laboratory Data and Calculation Sheet**

Date:

****

Date:

****

1. **Laboratory Task Review**

Date: ……………………………………. Technician ………………………………………..

Consider the overall Project tasks and respond to each of the items in the table below:

|  |  |
| --- | --- |
| 1. Where in your procedure did you find unexpected problems and how were these overcome? |  |
| 1. Circle any of the problem solving strategies listed that you and your team used to solve problems during the task. | * Gathered information * Asked questions * Defined the problem * Brain storming * Identified various options * Mind mapping |
| 1. Explain how your original plan changed when the urgent samples arrived. How did the team work together to get the result out on time? |  |
| 1. What interpersonal communication strategies were important during your team interactions? |  |
| 1. Circle the conflict resolution techniques that would be useful during this task if there had been conflict between team members. | * Remaining calm * Active listening * State your idea tactfully * Avoid the ‘blame game’ * Focus on moving forward, not backwards * Be empathetic |
| 1. Who in the laboratory could you discuss issues that cannot be resolved easily? |  |
| 1. What do you consider your strengths in this task? |  |
| 1. What do you consider your weaknesses in this task? |  |
| 1. How would you change your plan if you had to complete this task in the future? |  |
| 1. What sources of help or assistance was available to you and the team for this task? How did you access this? |  |

## Part 2: Assessment Checklist

The following checklist will be used by your assessor to mark your performance against the assessment criteria of your submitted/presented project. Use this checklist to understand what skills and/or knowledge you need to demonstrate in your submission/presentation. All the criteria described in the Assessment Checklist must be met. The assessor may ask questions while the submission/presentation is taking place or if appropriate directly after the task/activity has been submitted/completed.

| Task/  Step | Instructions | Session 1 Date: | | Session 2 Date: | | Session 3 Date: | | Assessor Comments |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | S | US | S | US | S | US | *Assessors are to record their observations in sufficient detail to demonstrate their judgement of the students performance against the criteria.* |
|  | *Note: this Assessment will be stopped for any breach of safety.*  *Student is to undertake tasks within the environment of the simulated TAFE laboratory* | | | | | | | |
| **1** | Student accesses their original plan contained in Project 1, at the commencement of each session |  |  |  |  |  |  |  |
| **A** | Student completes Task A during the 3 scheduled sessions by following Project 1 documents and referring to procedure documentation provided in Appendices of Project 1.  Student records all data on the required Laboratory Data and Calculation Worksheet, the Laboratory Report Sheet |  |  |  |  |  |  |  |
| **B** | Student completes Task B during 2 of the scheduled sessions by following Project 1 documents and referring to procedure documentation provided in Appendices of Project 1.  Student records all data on the required Laboratory Data and Calculation Worksheet and the Laboratory Report Sheet |  |  |  |  |  |  |  |
| **C** | Student as part of a Team completes Task C during 2 of the scheduled sessions by following Project 1 documents and referring to procedure documentation provided in Appendices of Project 1.  Student records all data on the required Laboratory Data and Calculation Worksheet and the Laboratory Report Sheet |  |  |  |  |  |  |  |
| **2** | Student completes the Laboratory Task Review |  |  |  |  |  |  |  |

## Assessment Feedback

*NOTE: This section* ***must*** *have the assessor signature and student signature to complete the feedback.*

### Assessment outcome

Satisfactory

Unsatisfactory

### Assessor Feedback

Was the assessment event successfully completed?

If no, was the resubmission/re-assessment successfully completed?

Was reasonable adjustment in place for this assessment event?  
*If yes, ensure it is detailed on the assessment document.*

Comments:

### Assessor name, signature and date:

### Student acknowledgement of assessment outcome

Would you like to make any comments about this assessment?

### Student name, signature and date

***NOTE: Make sure you have written your name at the bottom of each page of your submission before attaching the cover sheet and submitting to your assessor for marking.***