

Marking & Moderation Strategies for Unit A – Fitting & Machining

Flexible, Criteria-Aligned Assessment

Version X

16 October 2025



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SAMPLE



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Flexible, Criteria-Aligned Assessment

SECTION OVERVIEW

- 1. Purpose of This Guide**
Supporting teachers with flexible planning, assessment confidence, and moderation clarity
- 2. Understanding the Criteria Alignment**
How worksheets link to QCAA criteria and support evidence-based assessment.
- 3. Planning Worksheet Use**
Selecting tasks that suit your context while ensuring coverage across criteria.
- 4. Building the Student Folio**
What to include, how to annotate, and how it supports assessment decisions.
- 5. Moderation Practices**
Using student samples, exemplars, and collaboration to build consistency.
- 6. Submission Checklist**
A flexible template to reflect your selected evidence.
- 7. Marking, Assessment & Reporting Standards**
Applying QCAA's A-E descriptors and reporting Unit 1 & 2 results
- 8. Worksheet-to-Criteria Planning Matrix**
Table A1: Suggested Alignment of Worksheets to QCAA Criteria
- 9. Final Thoughts**
Encouragement, flexibility, and confidence in your professional judgement.

PURPOSE OF THIS GUIDE

This guide supports teachers – especially those new to the subject – in planning, delivering, and moderating assessment using worksheets aligned to QCAA criteria. It offers practical suggestions, examples, and tools to build confidence and consistency across varied school contexts.

Note: All strategies and examples provided are suggestions only. They are intended to assist teachers in making informed decisions and are not prescriptive. The goal is to offer clarity and support – not to impose a fixed model or invite comparison. Teachers are encouraged to adapt these ideas to suit their own professional judgement, student cohort, and school arrangements.



SECTION 1: UNDERSTANDING THE CRITERIA ALIGNMENT

Assessment in Engineering Skills Applied is guided by six QCAA criteria ([Engineering Skills 2024 v1.2: Applied senior syllabus](#)):

- **Demonstrate** – executing practical skills and procedures
- **Interpret** – reading and applying technical information
- **Select** – choosing appropriate materials, tools, and processes
- **Sequence** – organising fabrication steps in a logical, efficient order
- **Adapt** – modifying approaches or responding to feedback
- **Evaluate** – reflecting on outcomes, decisions, and performance

These criteria are assessed **holistically** using a **best-fit judgment approach**. Teachers consider the quality of evidence across the student's folio, rather than checking off isolated tasks. This allows flexibility in how students demonstrate their learning and how teachers assess it.

Worksheet Alignment

Students complete a range of worksheets throughout each project. Some are designed to build skills, others to generate assessable evidence. Not every worksheet needs to be submitted — but the **overall folio** must provide sufficient coverage across the six QCAA criteria.

This is especially important when:

- Planning delivery sequences
- Selecting worksheets for assessment
- Supporting students in building strong folios
- Moderating submissions across teams

How Worksheets Work Within Projects

Each project in this unit is built around a sequence of worksheets that guide students through planning, fabrication, documentation, and reflection. These worksheets are not just instructional tools — they are designed to generate assessable evidence aligned to QCAA criteria.

Some worksheets focus on technical interpretation or material selection, while others support practical execution, QA documentation, or evaluation. Teachers can use these worksheets flexibly:

- As formative tools to build skills and scaffold learning
- As summative evidence for assessment and moderation
- As reference points for student reflection and peer feedback

PROJECT A1 – DRILL GAUGE

This project introduces students to foundational fitting and machining skills using hand tools and bench equipment. Through tasks such as marking out, drilling, finishing, and documentation, students build confidence in technical execution and quality control. The worksheets offer strong opportunities to assess **Demonstrate**, **Interpret**, **Select**, and **Evaluate**, such as:

- **4.2 Marking Out & Centre Punching** for *Demonstrate*
- **4.1 Material Prep & SOP Compliance** for *Interpret*
- **4.6 ID Stamping & Peer QA** for *Select*
- **4.8 Reflection Journal** for *Evaluate*



PROJECT A2 – MEAT MALLET

This project focuses on precision machining and manual fabrication techniques. Students engage in tasks that involve lathe operations, tapping, milling, QA documentation, and reflective evaluation. These activities offer strong opportunities to assess **Demonstrate**, **Interpret**, **Select**, **Evaluate**, **Sequence**, and **Adapt** such as:

- **5.6 Lathe Rotation & Setup** for *Demonstrate*
- **5.5 Tool ID: Lathe Operations** for *Interpret*
- **5.10 Mill Setup Journal** for *Select*
- **5.12 Measurement QA Worksheet** for *Evaluate*
- **5.13 Tooth Layout & Milling** for *Sequence*
- **5.17 Fit Review Log** for *Adapt*

SUMMARY TABLES: CRITERIA ALIGNMENT BY PROJECT

For condensed view of criteria alignment by project, refer to **Tables 1 and 2** below. These summary tables highlight commonly selected worksheets for each QCAA criterion, along with the type of evidence they typically generate in **Project A1 – Drill Gauge** and **Project A2 – Meat Mallet**.

While not exhaustive, Tables 1 and 2 offer practical reference points to support planning, guide student submissions, and assist with moderation. They are especially helpful for new teachers or those developing assessment folios, providing a clear snapshot of how tasks/worksheets connect to assessable standards.

TABLE 1: PROJECT A1 – DRILL GAUGE WORKSHEETS TO QCAA CRITERIA

Criterion	Worksheets	Evidence Type
Demonstrate	4.2 Marking Out & Centre Punching 4.3 Worksheet Drill Press 4.4 Profile Cutting & Chamfering	Execution of layout, drilling, and shaping tasks with safety compliance
Interpret	4.1 Material Prep & SOP Compliance	Understanding of SOPs, material identification, and workshop safety procedures
Select	4.5 Scale Marking & Final Finishing	Tool and method choice for scale layout and finishing decisions
Evaluate	4.6 ID Stamping & Peer QA 4.7 Evaluation & Submission	QA documentation, peer feedback, self-assessment, final review

TABLE 2: PROJECT A2 – MEAT MALLET WORKSHEETS TO QCAA CRITERIA

Criterion	Worksheets	Evidence Type
Demonstrate	5.6 Lathe Rotation & Setup 5.8 Turning to Diameter 5.19 Final Assembly	Machining execution, surface finish, product completion



Interpret	5.5 Tool ID: Lathe Operations 5.11 Vertical Mill SOP	Tool identification, SOP understanding
Select	5.7 Lathe SOP & Facing 5.10 Mill Setup Journal	Tooling decisions, setup rationale
Evaluate	5.12 Measurement QA Worksheet 5.17 Fit Review Log 5.22 Individual Documentation	QA checks, fit analysis, personal reflection
Sequence	5.1 Team Roles & Project Agreement 5.13 Tooth Layout & Milling	Process order, collaborative planning
Adapt	5.18 Tolerance Troubleshooting 5.20 Photo-Journal	Problem-solving, rework evidence

For a full overview of how all worksheets align with the QCAA criteria across both projects, refer to **Appendix A: Worksheet-to-Criteria Planning Matrix**. This detailed matrix supports planning, moderation, and folio development by mapping each worksheet to one or more syllabus standards.



SECTION 2: PLANNING WORKSHEET USE

Planning worksheet use is about balancing curriculum coverage with classroom realities. Teachers are encouraged to select, adapt, and sequence worksheets to suit their delivery model, student cohort, and available resources — while ensuring that the student folio provides sufficient evidence across the six QCAA criteria.

Suggested Planning Steps

- 1. Review the Planning Matrix**
Use **Table A1: Worksheet-to-Criteria Planning Matrix – Projects A1 & A2 (Appendix A)** to identify which worksheets align with each QCAA criterion.
- 2. Select 2-3 worksheets per criterion**
As a general guide, this ensures broad coverage without overloading students or staff
- 3. Adapt based on context**
Consider student numbers, workshop access, time constraints, and individual learning needs.
- 4. Use some worksheets for practice only**
Not all worksheets need to be submitted — some may be used for skill-building, scaffolding, or formative feedback.
- 5. Update the submission checklist**
Reflect your selected evidence clearly so students know what to submit and teachers know what to assess.

Flexible Delivery Models

Students may still complete all worksheets if this suits the teacher's delivery model or school context. However, assessment should focus on quality of evidence — not quantity. Teachers are encouraged to:

- Use selected worksheets for formal assessment
- Use others for practice, modelling, or peer feedback
- Annotate student work to highlight where criteria are demonstrated – even if outside the worksheet's original intent



SECTION 3: BUILDING THE STUDENT FOLIO

The student folio is a curated collection of evidence that demonstrates achievement across the QCAA criteria. It should include a mix of annotated worksheets, documentation, and visual records that reflect both process and product.

What Goes in the Folio?

- Annotated worksheets
- QA sheets
- Final product photos
- Reflection journal
- Peer Feedback
- Fix-it logs (if applicable)
- Video documentation (e.g. fabrication walkthrough, reflection, QA process)

For a full reference of how worksheets align with QCAA criteria, see **Appendix A: Worksheet-to-Criteria Planning Matrix**.

The table below shows a sample folio structure using selected worksheets from **Project A1 – Drill Gauge**.

TABLE 3: SAMPLE STUDENT FOLIO – DRILL GAUGE (EVIDENCE ALIGNED TO QCAA CRITERIA)

Evidence Type	Worksheet	Criteria Covered
SOP & Prep Documentation	4.1	Interpret, Select
Marking & Drilling Execution	4.2	Demonstrate, Select
Drill Press Operation	4.3	Demonstrate
Profile Cutting & Chamfering	4.4	Select
QA & ID Stamping	4.6	Evaluate
Final Submission Reflection	4.7	Evaluate, Adapt

In addition to written and photographic evidence, teachers may also include **video documentation** as part of the student folio. Videos can capture fabrication processes, build sequences, or student reflections, and are particularly useful for supporting criteria such as Demonstrate, Sequence, Adapt, and Evaluate. For example, a short clip showing a student performing a weld or narrating their QA adjustments can strengthen the evidence base and provide clarity during moderation.



SECTION 4: SUBMISSION CHECKLIST (ADAPTABLE)

The checklist below outlines suggested evidence items for student submission. Teachers may adapt it based on their selected worksheets and delivery model.

Sample Checklist – Drill Gauge

The checklist below outlines suggested evidence items for student submission. Teachers may adapt it based on their selected worksheets and delivery model.

- ☐ **Material Prep & SOP Summary** – *Worksheet 4.1*
- ☐ **Marking & Punching Evidence** – *Worksheet 4.2*
- ☐ **Drill Press Setup & QA Log** – *Worksheet 4.3*
- ☐ **Profile Cutting & Chamfering Review** – *Worksheet 4.4*
- ☐ **ID Stamping & Peer QA Sheet** – *Worksheet 4.6*
- ☐ **Final Submission Reflection**– *Worksheet 4.7*
- ☐ **Final Product Photos (2–3)** – Taken during or after final assembly
- ☐ **Annotated Worksheets (selected)** – Highlighting key decisions or corrections
- ☐ **Fix-It Log (if applicable)** – *Optional, based on student adjustments or tolerance troubleshooting*
- ☐ **Video Clip – Machining or Setup Demo** – *Optional, supports Demonstrate and Sequence criteria*

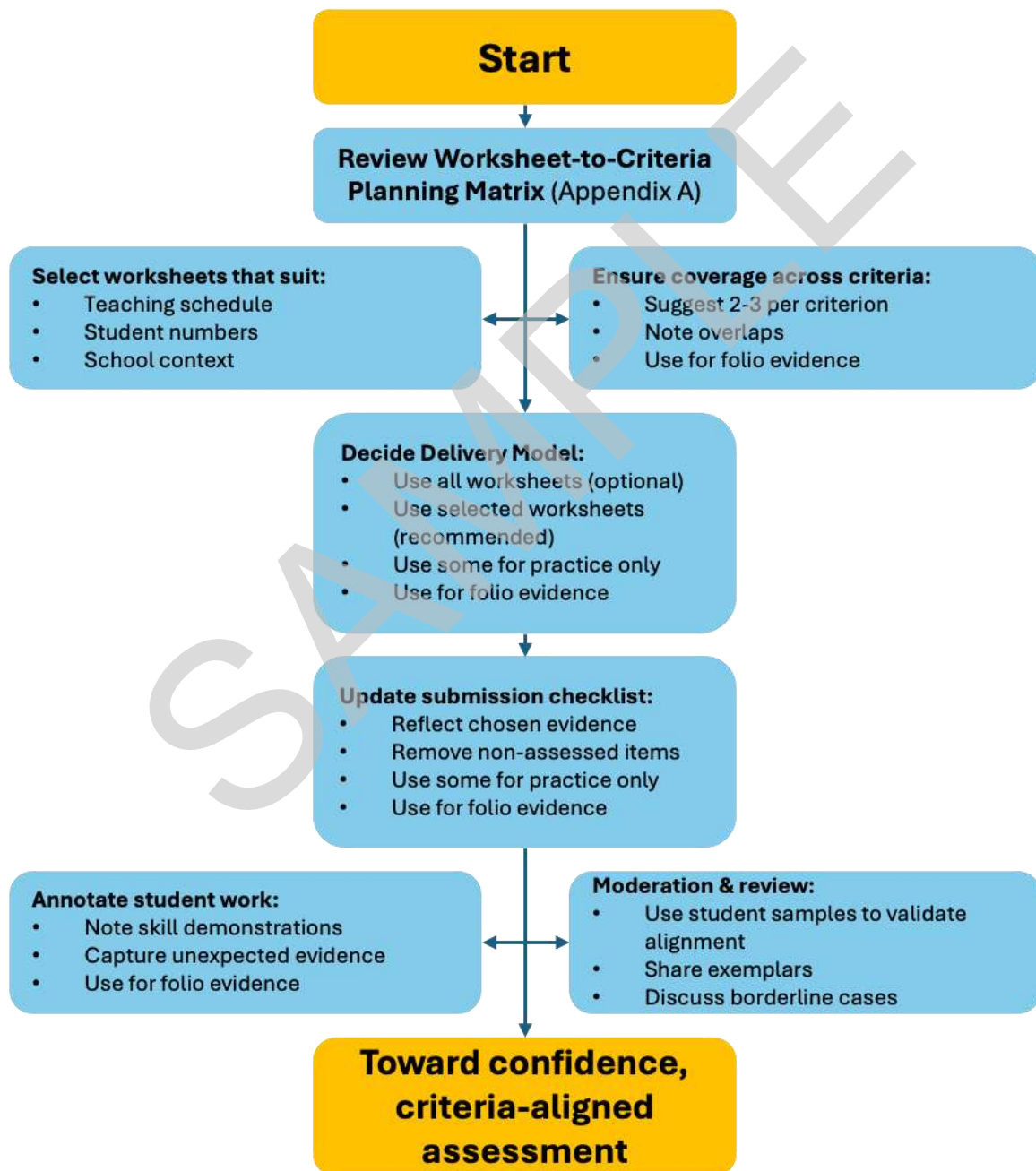
Tip: Use this checklist as a student handout or moderation reference. You can also create a version for **Project A2 – Meat Mallet** using the same format.



SECTION 5: VISUAL FLOWCHART – FROM PLANNING TO MODERATION

How to Build Criteria-Aligned Assessment Using Student Worksheets

The flowchart below outlines a process for planning, delivering, and moderating assessment in this unit. It supports flexible worksheet use while ensuring student folios provide sufficient evidence across the six QCAA criteria.





SECTION 6: MARKING, ASSESSMENT & REPORTING STANDARDS

Best-Fit Judgement Approach

QCAA uses a **standards-based assessment model**. Teachers assess student work against defined descriptors for each criterion, making a **best-fit judgement** based on quality of evidence presented. This approach allows for flexibility in how evidence is gathered and interpreted, while maintaining consistency in how student achievement is reported.

Refer to QCAA [Engineering Skills 2024 v1.2: Applied senior syllabus](#) for full details on reporting standards and assessment expectations.

Moderation Practices

Moderation is a collaborative process that supports consistency, fairness, and confidence in assessment decisions. It helps teaching teams build shared understanding of what quality evidence looks like across the QCAA criteria.

Note: The moderation strategies outlined below are suggestions only. They are intended to support professional judgement and team-based decision-making, and should be adapted to suit your school's context and delivery model.

SUGGESTED MODERATION STRATEGIES

- Use actual student samples to validate alignment with criteria
- Share annotated exemplars to clarify expectations across your team
- Discuss borderline cases to build consistency in judgement
- Use photo evidence to support fabrication quality and skill execution
- Refer to the **Worksheet-to-Criteria Planning Matrix** in **Appendix A** to confirm coverage across all six criteria

Moderation is most effective when paired with clear annotation, shared language, and open dialogue. It's not about finding perfect answers — it's about building confidence in your collective decisions.

In addition to annotated worksheets and QA documentation, teachers may also use **video evidence and final product photos** during moderation. These formats help validate student claims, showcase skill execution, and support criteria such as Demonstrate, Sequence, and Evaluate. For example, a short clip of a student performing a weld or narrating their build sequence can clarify borderline submissions and strengthen confidence in teacher judgement.

Grade Descriptors Summary

The table below summarises the QCAA grade descriptors used to guide teacher judgement across the assessment instruments. These descriptors support consistent, criteria-aligned decisions using a best-fit approach.



TABLE 4: SUMMARY OF QCAA GRADE DESCRIPTORS FOR ASSESSMENT JUDGEMENTS

Grade	Descriptor Summary
A	Proficient, insightful, strategic, justified
B	Efficient, detailed, supported
C	Demonstrates expected skills and sequence - acceptable, basic, functional
D	Rudimentary, narrow, inconsistent
E	No meaningful demonstration – incorrect, superficial, unsubstantiated

Reporting Unit Results to QCAA

Teachers assess student work using QCAA's standards-based model, applying a best-fit judgement across the criteria. While A–E grades guide internal assessment decisions, **QCAA only receives the final unit result.**

Reported to QCAA	Meaning
Satisfactory (S)	Student has demonstrated sufficient evidence across the relevant criteria
Unsatisfactory (U)	Student has not met the minimum standard required for the unit
Not Rated (NR)	No evidence available for assessment

These outcomes are based on A–E judgements across assessment instruments. To award a **Satisfactory (S)** result, teachers must be confident that the student has presented **sufficient quality evidence** across the applicable criteria. This decision is holistic and based on professional judgement — not a checklist or worksheet count.

DETERMINING A SATISFACTORY RESULT

Teachers use A-E grade descriptors to assess student work across the QCAA criteria. They then make a holistic judgement.

Has the student provided sufficient quality evidence to meet the standard for the unit?

- A student may receive mixed grades (e.g. A, B, C across criteria) and still be awarded a **Satisfactory (S)** if the overall folio demonstrates consistent achievement.
- The decision is based on **quality, consistency, and coverage** — not the number of worksheets or perfect grades.

A student receives an **Unsatisfactory (U)** if:

- Evidence is insufficient across the criteria
- Work is superficial, inconsistent, or lacks key skills
- The standard required for the unit is not met

This best-fit approach supports flexible, criteria-aligned assessment while maintaining consistency in reporting.

These reported outcomes directly affect QCE credit eligibility, depending on which unit is being delivered. The following section explains how Unit A – Fitting and Machining contributes to QCE credit.



QCE Credit Allocation – How Unit A Impacts Credit

The way **Unit A – Fitting and Machining** is delivered (as Unit 1, 2, 3, or 4) affects how **Queensland Certificate of Education (QCE)** credit is awarded. While the teaching and assessment approach remains consistent across all units, the credit implications vary depending on placement.

UNIT A CREDIT SCENARIOS

Unit A Placement	Assessment Outcome	QCE Credit Earned
Delivered as Unit 1 or Unit 2	Satisfactory (S)	1 QCE point per unit
Delivered as Units 3 & 4 (paired)	Final grade of C or better	2 QCE points
Any unit receives U or NR	Insufficient or no evidence	0 QCE points

Key Notes for Teachers:

- **Units 1 and 2** are treated independently. Each can earn **1 QCE point** if a Satisfactory (S) result is achieved.
- **Units 3 and 4** are treated as a **single pair**. Students must complete both and achieve a **final grade of C or better** to earn **2 QCE points**.
- A grade below C for Units 3 & 4 results in **no QCE credit** for those units.

This credit structure does **not affect how the units are taught or assessed**. Teachers can use the same criteria-aligned, best-fit approach across all units. Schools determine which units to deliver and when, based on their context and student needs.

For full details, refer to [QCAA's QCE & QCIA Handbook – Section 2.1.2](#) and [Assessment and Results](#).

QCE Overview for Teachers

This overview provides essential context for teachers, helping them understand how their assessment decisions contribute to student certification.

The **Queensland Certificate of Education (QCE)** is the qualification awarded to students at the end of senior schooling. It certifies that a student has met required standards across learning, literacy, and numeracy, and supports their transition into employment, training, or further study.

HOW APPLIED SUBJECTS CONTRIBUTE

Unit Placement	QCE Credit Earned	Conditions
Unit 1 or Unit 2	1 point per unit	Must achieve a Satisfactory (S) result
Units 3 & 4	2 points (combined)	Must achieve a final grade of C or better
Any unit receives U or NR	0 points	No credit awarded

Understanding QCE credit rules helps teachers:

- Make informed decisions about assessment and moderation
- Track student progress toward certification
- Communicate clearly with students and families
- Plan delivery sequences with credit impact in mind

For full details, refer to [QCAA's QCE & QCIA Handbook – Section 2.1.2](#) and [Assessment and Results](#).