

Technological Education Rubrics

Fabrication / Build Skills – Product Construction and Performance

Your Name: _____

Self-Assessment Value: ____ / ____

Peer Assessment By: _____

Peer-Assessment Value: ____ / ____

1 Post-Production Self and Peer Assessment

Now that you believe you have completed the design and fabrication of a product, you need to “test” both your product and your learning. Student work -- your product and your process -- will be assessed and evaluated according to rubrics such as those provided below.

Your task now is to self-assess your work – just as though you were on-the-job in the real world. Use the applicable rubrics below. If you think you need another rubric to properly assess your work... then create your own! Use the ready-made rubrics below as a guide. Designing your own rubrics – setting out requirements for your own learning – is where the real learning begins.

2 Rubrics – Fabrication / Build Process

Expectation (Out of 20 Marks)	Level 1 (Up to 12 Marks)	Level 2 (13 to 14 Marks)	Level 3 (15 to 16 Marks)	Level 4 (17 to 20 Marks)
Performance: Product Safety, Function and Ergonomics	Metal parts have burrs or sharp edges or corners. Rotating parts are not guarded. Product will probably deform under expected conditions of use such that it will soon become non-functional. Product can fall over or is otherwise unstable. Product is difficult to hold or use.	Most burrs and sharp edges have been filed smooth. Component parts are well-assembled and unlikely to “work loose” in typical conditions of use. Product can be used effectively but results can be inconsistent. Product may be difficult to service / maintain. Does not meet 2 of the original performance requirements and no justification is documented for these shortcomings. Product is actually “over-designed”, for example far too heavy or far too thick etc.	All burrs and sharp edges have been filed smooth. Product is strong enough for the expected service conditions. When used many times the product provides consistently good results. Does not meet 1 of the original performance requirements and no justification is documented for this shortcoming.	Complies with Level 3 and, in addition: Any differences between the “as-built” product and the original requirements are justified in the decision-making documentation.

Expectation (Out of 20 Marks)	Level 1 (Up to 12 Marks)	Level 2 (13 to 14 Marks)	Level 3 (15 to 16 Marks)	Level 4 (17 to 20 Marks)
Materials Selection and Utilization	Inappropriate materials were selected for the given conditions or Materials were appropriate but were ineffectively used or wasted.	Materials were appropriate. Materials were not wasted during production.	Materials were appropriate and were sensibly used to benefit strength.	Materials were appropriate and were very creatively used to optimize strength, function and ergonomics.

Expectation (Out of 20 Marks)	Level 1 (Up to 12 Marks)	Level 2 (13 to 14 Marks)	Level 3 (15 to 16 Marks)	Level 4 (17 to 20 Marks)
Construction: Attention to Detail, Quality and Pride of Craft	Construction reflects carelessness and / or poor attention to drawings and requirements. (eg shapes that were specified as circles are not true circles) Construction bears little resemblance to the design drawings and no documentation is provided to support the changes.	Construction reflects reasonable care and attention to drawings and requirements (eg shapes that were specified as circles are reasonable circles) Construction does not reflect the design in 2 or 3 significant respects and no documentation is provided to support the design changes.	Construction reflects a careful practitioner and good attention to drawings and specifications (eg shapes that were specified as rectangles have 4 angles of 90 deg +/- 2 degrees.) Construction does not reflect the design in 1 or 2 significant respects but as-built documentation or decision-making documentation is provided to support the changes.	Complies with Level 3 and, in addition: Construction accurately reflects the design documentation in all respects. All measurements are within tolerance. The product (and its finish) is neat and attractive.

Expectation (Out of 20 Marks)	Level 1 (Up to 12 Marks)	Level 2 (13 to 14 Marks)	Level 3 (15 to 16 Marks)	Level 4 (17 to 20 Marks)
Design Process Documentation (Refer to Written_Report_ rubric.doc)	Minimal documentation in support of the design process. Documentation is at level 1 in Written_Report_rubric.doc.	Design brief and Requirements are adequate but simplistic. Parts list is too general, eg -- "4 pieces of metal" Fabrication Plan is too simplistic, eg -- "get the metal from teacher". Quality control steps / test protocol is simplistic. Minimal value in the Reflection document.	All design documentation is provided and meets all general criteria and the minimum requirements. Fabrication plan is in table or spreadsheet format showing a numbered list of clearly-written steps, including identification of the raw material and tool to use as well as expected time to take. Safety checks are included. Quality control protocol reflects the requirements document.	Complies with Level 3 and in addition: It is clear that the student used the higher-order thinking skills to great advantage in learning. The Reflection document shows advanced technological competence, eg reflection describes, in detail, at least 2 areas for improvement.

3 As Needed, Create Your Own Additional Rubrics

Expectation (Out of 20 Marks)	Level 1 (Up to 12 Marks)	Level 2 (13 to 14 Marks)	Level 3 (15 to 16 Marks)	Level 4 (17 to 20 Marks)
Aesthetics				

Expectation (Out of 20 Marks)	Level 1 (Up to 12 Marks)	Level 2 (13 to 14 Marks)	Level 3 (15 to 16 Marks)	Level 4 (17 to 20 Marks)

4 Self-Reflection:

- 1) What I did well
- 2) What I did "not so well"
- 3) What I will do better in a future similar situation
- 4) Other aspects of my “Process” that I will improve (eg design process, fabrication process, testing process)

5 Peer Comments:

NOTE: In the feedback, the Peer Assessor must “make the student think” – not give the student the answer! Be sure to include comments justifying the assessment value that you are giving. Peer Assessor must put his / her comments in red font.

Assessor’s Name and Additional Notes: