Unit R108 – 3D design realisation

Recording prototype making

Instructions and answers for teachers

These instructions should accompany the OCR resource ***'Recording prototype making'*** *activity which supports OCR Cambridge Nationals in Engineering.*

The Activity:

This resource comprises of 1 task.

This activity offers an opportunity for English skills development.

Associated materials:

'Recording prototype making' activity sheet

Suggested timings:

Task 1: 1 hour

Learning outcome 3 – Be able to produce a prototype

Task 1

For this activity learners are required to research and investigate the reasons for keeping a logbook, the details it might contain and the format it might typically follow. They are also tasked to investigate how to keep a logbook both in paper-based form and using software or online.

Teachers might need to give learners some direction in completing the activity – and may have a preferred style for keeping a logbook when producing a prototype.

Reasons for keeping a logbook might include:

- To keep a personal note of research or design work undertaken
- To record ideas in case you wish to repeat or verify work done
- To communicate ideas to yourself so that you can reflect and review work undertaken
- To pass on ideas to other people or others in a team so they can repeat or verify your work or combine their ideas with yours
- To pass on information and ideas in case someone else needs to take over the project
- To record innovations and new ideas in case they need to be protected by patents or copyrights

A typical logbook might contain some or all of the following:

- Customer needs/requirements/ design specifications
- Sketches/doodling
- Technical drawings/circuit diagrams
- Notes
- Project objectives
- Work-in-progress
- Design alternatives
- Research findings (including internet searches and website URL)
- Sources of ideas
- Evaluation of data/results

- Meeting notes
- Action Items
- Random ideas
- Records of successes and failures
- Mathematical calculations
- Design reviews
- Decision criteria
- Design process
- Rationale for decisions
- Project reflections
- Professional development (personal reflection)

A paper-based format might typically be:

- Folder or bound pad (but no loose leaf pages)
- Date (and time) recorded on each page or entry
- Entries labelled (eg diagrams and figures) with table of contents at start
- Completed in ink (not pencil) with deleted entries crossed through with a line
- No pages removed, and no blank pages
- Must contain all notes, figures, diagrams etc., even rough work and work in progress

Learners might also explore how a logbook (or notebook) might be kept electronically using software or online. The following website provides a free online notebook tool although there are many alternatives: http://www.myschoolnotebook.com/

The teacher might extend this activity by tasking learners to begin keeping their own logbook as part of making a prototype.