CONSTRUCTION AND MECHANICAL TECHNOLOGIES: CONSTRUCT A SPECIFIED PRODUCT USING CNC MACHINES

Construct a specified product requires students to implement procedures and tests to make specified products using Computer Numerical Controlled (CNC) machines.

Initially students learn to perform a sequence of techniques and tests to make specified products using CNC machines that meet specifications. Students should progress to performing complex procedures, which incorporate the use of CNC machines to make specified products that meets specifications.

	LEVEL 6	LEVEL 7	LEVEL 8
LO			*Implement complex procedures to make a specified product using a Computer Numerical Controlled (CNC) machine*
TEACHER GUIDANCE			To support students to implement complex procedures to make a specified product using a Computer Numerical Controlled (CNC) machine at level 8, teachers could: • Support students to be aware of the capability of a CNC machine(s) including its limits • Support students to develop graphic representations of specified products in a computer design setting • Support students to develop an understanding of CNC programming language • Support students to develop skills in calibrating CNC machines to software and manufacturer requirements • Provide students with an opportunity to discuss what is meant by 'complex procedures' in relationship to CNC machines • Support students to undertake evaluative tests to demonstrate that specified products meet specifications • Ensure students have an appropriate environment, to apply relevant health and work regulations when working with CNC machines • Support students to schedule and practice a range of complex procedures when making specified products. This may be through completing a range of individual products and/or projects/activities.
INDICATORS		**LEARNING COULD PROGRESS FROM:** **KNOWLEDGE OF RESISTANT MATERIALS CONSTRUCTION** ***See* previous page**	Students can: • integrate the limits of a CNC machine into a graphic representation of the desired product in a computer design setting that demonstrates an understanding of CNC programming language • set up and calibrate a CNC machine to software and manufacturer requirements • operate a CNC machine to make an product in compliance with relevant health and safety regulations • evaluate a CNC machine made product against its graphic representation. • show independence and accuracy in undertaking complex procedures to make specified products using CNC machines • undertake complex procedures in a manner that economises time, effort, tooling and materials when implementing complex procedures to make a specified product using CNC machines.
AS			**ASAS91622 Construction & Mechanical Technologies 3.22** *Implement complex procedures to make a specified product using a Computer Numerical Controlled (CNC) machine*
	Level 1 Construction & Mechanical standards	Level 2 Construction & Mechanical standards	Level 3 Technology achievement standards & assessment resources DRAFT