J3.15 Produce CAD/CAM jewellery or silverware designs and prototypes SQA Unit Code H9VJ 04

Unit Summary

This unit covers the skills and knowledge required to design, develop and produce new products, using computer-aided design (CAD) and computer-aided manufacturing (CAM) technology. You will be required to produce CAD designs, transfer the design data to CAM systems, and manufacture prototypes using this technology. You must also ensure that you understand what you need to do to carry out the required activities and the standards of workmanship that you will be required to achieve. You will be expected to take personal responsibility for your own actions, and for the quality and accuracy of the work that you carry out.

Performance Indicators

You will be able to:

a) Use the software specified for the required design

b) Identify problems with faulty equipment or software operation and report them to the appropriate person

c) Use CAD software to produce designs for either jewellery or silverware products

d) Produce a sample model of the new product, using CAM equipment

e) Store files and folder as instructed

f) Check that the completed work is to an acceptable standard, and confirm this with your supervisor

Knowledge and Understanding

You will know and understand:

1) How to use CAD workstation software and hardware

2) Typical faults that can occur with CAD/CAM techniques and processes and who to report them to

3) The principles of computer generated graphics and drafting skills

4) How to inspect for errors on any CAD/CAM designs made, and the appropriate action to take if errors are found

5) The documentation to be completed at the end of the CAD/CAM activities

6) The mathematical calculations used in design

7) How to interpret drawn images

8) Current engineering drawing practice conventions

9) CAM techniques and processes

10) The manufacturing processes and techniques used

11) How to check that the finished prototype meets the required standard