

WORKSHOP TECHNOLOGY APPLICATIONS

UNIT CODE: ENG/AUT/CC/4 /4/A

Relationship to Occupational Standards:

This unit addresses the unit of competency: **Perform workshop applications**

Duration of Unit: 50 Hours

Unit description

This unit describes the competencies required to perform workshop applications. It involves using applied geometry to plan work operations, choosing appropriate tool and materials, measuring and marking out dimensions on workpieces, using hand tools to cut and file parts, assembling metal parts and sub-assemblies, polishing finished work, inspecting finished work for accuracy, maintaining of tools and equipment and performing housekeeping,

Summary of Learning Outcome

1. Use applied geometry to plan work operations
2. Choose appropriate tools and materials
3. Measure and markout dimensions on workpieces
4. Use hand tools to cut and file parts
5. Assemble metal parts and sub-assemblies
6. Polish finished work
7. Inspect finished work for accuracy
8. Maintain tools and equipment
9. Perform housekeeping

Learning Outcomes, Content and suggested assessment methods

Learning Outcome	Content	Suggested Assessment Methods
1. Use applied geometry to plan work operations	<ul style="list-style-type: none">• Interpretation of geometrical drawings• Operation plans• Standard drawing conventions	Observation Oral Written
2. Choose appropriate	<ul style="list-style-type: none">• Tools and equipment• Cleaning work area	Observation Oral

Learning Outcome	Content	Suggested Assessment Methods
tools and materials		Written
3. Measure and mark out dimensions on workpieces)	<ul style="list-style-type: none"> • use of measuring tools and equipment • use of marking out tools and equipment 	<ul style="list-style-type: none"> • Observation • Oral • Written
4. Use hand tools to cut and file parts	<ul style="list-style-type: none"> • Cutting • Filing 	<ul style="list-style-type: none"> • Observation • Oral • Written
5. Assemble metal parts and sub-assemblies	<ul style="list-style-type: none"> • Soldering • Riveting • Welding • Brazing • fastening 	<ul style="list-style-type: none"> • Observation • Oral • Written
6. Polish finished work	<ul style="list-style-type: none"> • Polishing and polishing materials 	<ul style="list-style-type: none"> • Observation • Oral • Written
7. Inspect finished work for accuracy	<ul style="list-style-type: none"> • Inspection of finished work • Adjustments on finished work 	<ul style="list-style-type: none"> • Observation • Oral • Written
8. Maintenance tools and equipment	<ul style="list-style-type: none"> • Tools and equipment maintenance eg. Oiling, grinding, greasing 	<ul style="list-style-type: none"> • Observation • Oral • Written
9. Perform housekeeping	<ul style="list-style-type: none"> • Waste disposal • Environmental regulations • Cleaning work area 	<ul style="list-style-type: none"> • Observation • Oral • Written

Suggested Methods of Instruction:

- Demonstration by trainer
- Practical work by trainee(s)

- Industrials visits
- Internet.
- Simulation

List of Recommended Resources

- Tools and equipment suggested but not limited to:
 - Welding
- Vices
- Cutting tools
- Combination square
 - Centre punch
 - scribes
- calipers
 - Dies and taps
- Surface plate
- V-blocks
 - Dial gauge
 - Engineer's square
- File card
- Assorted Files
 - Clamps
- Assorted hand tools
 - Hammers
- Measuring tools
- Assorted inspection tools and equipment
 - Inspection and measuring tools, GO and NOT GO gauges
 - Jigs and fixture
 - Pliers
- Rotary disc abrasive grinder
 - Saw
 - Screwdrivers
 - Spiral lowering
 - Tap wrench
 - Vacuum cleaners
 - V-block

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- Workbenches
 - Vacuum cleaners
- Mops/ Brooms and buckets
 - Firefighting equipment
- First Aid kit

Materials and supplies suggested but not limited to:

- Personal safety gear:
 - Goggles
 - Safety shoes
 - Overall
 - Cap
 - Ear Muffs
 - Gloves
- Drawing papers
- Raw materials
- Mild steel plate
- Sheet metal
- Brass sheets
- Zinc sheets
- Aluminum sheets
- Bright Drawn Mild Steel
- Carbon steel
- Brass rods
- Aluminum rods
- Abrasive materials
- Grinding paste
- Cotton wastes
- Cleaning detergents

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