BCATS

BUILDING, CONSTRUCTION AND ALLIED TRADE SKILLS

Sketches & drawings

Teacher/Tutor resource

Unit Standard 24353 (v3), **Level 2**

Demonstrate knowledge of & create sketches & drawings for BCATS projects 6 CREDITS

BCITO buildingpeople

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Purpose

This unit credits learners who:

- understand the meaning of lines and symbols on construction drawings
- describe a variety of drawing and sketching methods
- create sketches from job requirements and turn those sketches into instrumental drawings.

Sketches and drawings must be completed for two different projects. The projects must be of a similar complexity to wooden garden furniture, a deck, a non-consent building, a dog kennel, or a fence.

The drawings produced from the sketches for each of the two projects must include:

- Orthographic projections - an elevation, plan, and cross section
- Pictorial projections - two of isometric, oblique, one-point perspective, two-point perspective.

Students may use CAD software to create drawings or complete them manually.

There is a Learner Self-reflection sheet available should you consider your students may find completing it a worthwhile exercise. This can be helpful in supporting their learning but is not required for assessment purposes.

Assessment

Information to support assessment decisions should, wherever possible, be collected naturally as the BCATS projects progress.

Copies of the sketches and drawings must be attached to the Assessor Observation Sheet.

Assessment of this unit standard consists of:

- **completion of the Knowledge Assessment and**
- **completion of sketches and drawings for two projects and**
- **completion of an Assessor Observation sheet for the projects.**

Alignment with other unit standards

Developing programmes that integrate teaching and learning helps to provide students with meaningful and manageable learning opportunities.

The following unit standards are not an exhaustive list of which you could include in your programme and nor should one feel obligated to offer all as linked units. Other unit standards you include will depend on your overall programme of study and what best meets your learners' needs.

Level 2

22607: *Read and interpret plans, working drawings and specifications for BCATS projects*

US 24353 provides students with the opportunity to apply the knowledge they learned when doing US 22607.

24358: *Plan and monitor the construction of a BCATS project and quality check the product:*

Developing sketches and drawings can help students to plan their projects. This is especially so if the project is a timber-framed utility building or similar.

12936: *Construct a non-consent timber framed utility building as a BCATS project*

Students can use their sketches and drawings to help calculate quantities and prepare an order for the materials needed for this project. The sketches and drawings can be referred to as they construct their building.

Examples of oral assessment questions

1. Which drawing method is most commonly used for:

   Building plans? *Third angle orthographic projection.*

   Pictorial view of a building? *Two point perspective.*

   Interior pictorial layout of a room? *One point perspective.*

2. What grade of pencil should you use for formal drawing finishing work?

   H - HB.

3. What drawing scale would be used where a drawing is shown at half its normal size?

   Scale 1:2.

4. What drawing scale would be used where a drawing is shown at twice its normal size?

   Scale 2:1.

5. How can the visual presentation of a freehand sketch be improved?

   Use of shading or colour rendering, thick and thin lines, high lighting of details.

6. Identify three commonly used drawing methods that can be used to produce a pictorial view

   Oblique.

   Isometric.

   One point perspective.

   Two point perspective.

7. What are the three views that make up an orthographic drawing?

   Front view or elevation.

   Right and left side views.

   Top view or plan.

Assessment Schedule

US 24353 (v3) - Demonstrate knowledge of and create sketches and drawings for BCATS projects (Level 2, Credit 6)

Evidence for achieving credit in this unit standard must be related to ***two*** different BCATS projects. Examples of suitably complex projects include wooden garden furniture, a deck, a non-consent building, a dog kennel, a pergola, a fence and gate, a kitset garden shed. Sketches and drawings must be attached to the Assessor Observation sheet.

Outcome 1	Demonstrate knowledge of lines and symbols, and drawing and sketching methods, required for BCATS projects.	Assessment evidence and judgement
PC 1.1	Lines used on construction drawings are identified and their purpose described.	Evidence gathered from the Knowledge Assessment Q3 showing: • Description and purpose of lines, such as outlines, dimension lines, hidden detail, centre break, reference lines are correct.
PC 1.2	Symbols used on construction drawings are identified and their purpose described.	Evidence gathered from the Knowledge Assessment Q12 showing: • Description and purpose of identified symbols are correct • Symbols indicating materials, doors, windows, fittings and furnishings.
PC 1.3	Drawing and sketching methods are identified and interpreted in terms of their practical application. Range: one-point perspective, two-point perspective, isometric, oblique; third angle orthographic projection.	Evidence gathered from the Knowledge Assessment Q1, Q2, Q4, Q5, Q6, Q7, Q11 showing: • Practical purpose of all of the drawing and sketching methods from the range statement is correct.
Outcome 2	Establish job requirements and create sketches for BCATS projects.	Assessment evidence and judgement
PC 2.1	Job requirements are obtained and verified, and sketching technique is selected in accordance with work place practice.	Evidence gathered from practical projects and the assessor observation sheet showing: • Job requirements obtained and verified • Appropriate sketching technique selected.
PC 2.2	Sketching equipment is assembled and prepared in accordance with selected sketching technique.	Evidence gathered from practical projects, assessor observation sheet and Knowledge Assessment Q9 (part c) showing: • Appropriate sketching equipment assembled and prepared.
PC 2.3	Sketches are created in accordance with job requirements.	Evidence gathered from practical projects and the assessor observation sheet showing: • Appropriate number of sketches produced • Sketches show correct proportion and appropriate detail.

Continued

Outcome 3	Convert sketches to formal drawings. Range: third angle orthographic projections – elevations, plans, cross sections; pictorial projections – two of – isometric, oblique, one-point perspective, two-point perspective.	Assessment evidence and judgement
PC 3.1	Drawing equipment is assembled and prepared in accordance with selected drawing technique.	• Knowledge Assessment Q9, Q10 answers correct, and Evidence gathered from practical projects and the assessor observation sheet showing: • Appropriate instrumental drawing equipment assembled and prepared.
PC 3.2	Drawings are created from sketches in accordance with the job requirements.	Evidence gathered from practical projects and the assessor observation sheet showing: • An elevation, plan, cross section and two of isometric, oblique, one-point perspective, two-point perspective are produced that are based on the sketches • The drawings are to the correct scale, use correct line quality and convey sufficient detail.
PC 3.3	Drawings communicate all construction information relevant to the intended project, and are in accordance with SAA/SNZ HB 1:1994.	Evidence gathered from practical projects and the assessor observation sheet showing: • Drawings communicate all construction detail for the project and include correct terminology and abbreviations, materials, scale and layout of drawing sheets, use of drawing conventions.
PC 3.4	Sketches, drawings, equipment and unused materials are stored in accordance with workplace practice.	• Knowledge Assessment Q8 and Q13 answers correct, and Evidence gathered from practical projects and assessor observation sheet showing: • Sketches, drawings, equipment and unused materials are stored correctly.