Building & Construction Skills 2024 v1.1

Applied senior syllabus

Queensland Government | Queensland Curriculum & Assessment Authority

For all Queensland schools

Contents

1 Queensland syllabuses for senior subjects

In Queensland, a syllabus for a senior subject is an official 'map' of a senior school subject. A syllabus's function is to support schools in delivering the Queensland Certificate of Education (QCE) system through high-quality and high-equity curriculum and assessment.

Syllabuses are based on design principles developed from independent international research about how excellence and equity are promoted in the documents teachers use to develop and enliven the curriculum.

Syllabuses for senior subjects build on student learning in the Prep to Year 10 Australian Curriculum and include General, General (Extension), Senior External Examination (SEE), Applied, Applied (Essential) and Short Course syllabuses.

More information about syllabuses for senior subjects is available at www.qcaa.qld.edu.au/senior/senior-subjects. and in the 'Queensland curriculum' section of the *QCE and QCIA policy and procedures handbook*.

Teaching, learning and assessment resources will support the implementation of a syllabus for a senior subject. More information about professional resources for senior syllabuses is available on the QCAA website and via the QCAA Portal.

2 Course overview

2.1 Rationale

Technologies are an integral part of society as humans seek to create solutions to improve their own and others' quality of life. Technologies affect people and societies by transforming, restoring and sustaining the world in which we live. In an increasingly technological and complex world, it is important to develop the knowledge, understanding and skills associated with traditional and contemporary tools and materials used by Australian building and construction industries to construct structures. The building and construction industry transforms raw materials into structures wanted by society. This adds value for both enterprises and consumers. Australia has strong building and construction industries that continue to provide employment opportunities.

Building & Construction Skills includes the study of the building and construction industry's practices and production processes through students' application in, and through, trade learning contexts. Industry practices are used by building and construction enterprises to manage the construction of structures from raw materials. Production processes combine the production skills and procedures required to construct structures. Students engage in applied learning to demonstrate knowledge and skills in units that meet local needs, available resources and teacher expertise. Through both individual and collaborative learning experiences, students learn to meet customer expectations of high-quality structures at a specific price and time.

Applied learning supports students' development of transferable 21st century, literacy and numeracy skills relevant to future employment opportunities in the domestic, commercial and civil construction industrial sectors. Students learn to interpret drawings and technical information, and select and demonstrate safe practical production processes using hand and power tools, machinery and equipment. They communicate using oral, written and graphical modes and organise, calculate, plan, evaluate and adapt production processes and the structures they construct. The majority of learning is done through construction tasks that relate to business and industry. Students work with each other to solve problems and complete practical work.

2.2 Syllabus objectives

The syllabus objectives outline what students have the opportunity to learn.

1. **Demonstrate practices, skills and procedures.**

   Students identify and reproduce fundamental industry skills in construction tasks. These relate to enterprises, workplace health and safety, personal and interpersonal skills, structure quality, drawings and technical information, tools and materials.

2. **Interpret drawings and technical information.**

   Students use knowledge of industry practices and production processes to draw meaning from elements and critical features of drawings and technical information. They draw meaning through mathematical calculations, industry conventions, standards and task-specific information, such as schedules, data tables and operating procedures.

3. **Select practices, skills and procedures.**

   Students choose knowledge and skills to complete building and construction industry–specific construction tasks. Knowledge and skills relate to enterprises, workplace health and safety, personal and interpersonal skills, structure quality, drawings and technical information, tools and materials.

4. **Sequence processes.**

   Students use knowledge and understanding of industry practices, including safety concepts and principles, waste minimisation, structure quality expectations, teamwork and regulations. They decide on the combination and order of production processes, including preparing, marking-out, cutting, joining, machining, forming, assembling and finishing to produce structures in construction tasks.

5. **Evaluate skills and procedures, and structures.**

   Students determine the efficiency and effectiveness of production skills and procedures in relation to industry practices and specific construction task requirements. They assess the strengths, implications and limitations of structures, using drawings and technical information, and expectations of quality.

6. **Adapt plans, skills and procedures.**

   Students modify and improve production plans based on identified strengths, implications and limitations. They apply quality control measures to improve the alignment of structures with drawings and technical information.

2.3 Designing a course of study in Building & Construction Skills

Syllabuses are designed for teachers to make professional decisions to tailor curriculum and assessment design and delivery to suit their school context and the goals, aspirations and abilities of their students within the parameters of Queensland's senior phase of learning.

The syllabus is used by teachers to develop curriculum for their school context. The term *course of study* describes the unique curriculum and assessment that students engage with in each school context. A course of study is the product of a series of decisions made by a school to select, organise and contextualise subject matter, integrate complementary and important learning, and create assessment tasks in accordance with syllabus specifications.

It is encouraged that, where possible, a course of study is designed such that teaching, learning and assessment activities are integrated and enlivened in an authentic setting.

2.3.1 Course structure

Building & Construction Skills is an Applied senior syllabus. It contains at least four QCAA-developed units from which schools develop their course of study.

Each unit has been developed with a notional time of 55 hours of teaching and learning, including assessment.

Schools select four units from the unit options provided. They decide the order in which the units will be delivered. Once these decisions have been made, the four units selected and their order of implementation determine which units are considered Units 1–4.

Students should complete Unit 1 and Unit 2 before beginning Units 3 and 4. Units 3 and 4 are studied as a pair.

More information about the requirements for administering senior syllabuses is available in the 'Queensland curriculum' section of the *QCE and QCIA policy and procedures handbook*.

2.3.2 Curriculum

Senior syllabuses set out only what is essential while being flexible so teachers can make curriculum decisions to suit their students, school context, resources and expertise.

Within the requirements set out in this syllabus and the *QCE and QCIA policy and procedures handbook*, schools have autonomy to decide:

- how and when subject matter is delivered
- how, when and why learning experiences are developed, and the context in which learning occurs
- how opportunities are provided in the course of study for explicit and integrated teaching and learning of complementary skills.

These decisions allow teachers to develop a course of study that is rich, engaging and relevant for their students.

2.3.3 Assessment

Senior syllabuses set out only what is essential while being flexible so teachers can make assessment decisions to suit their students, school context, resources and expertise.

Applied senior syllabuses contain assessment specifications and conditions for the assessment instruments that must be implemented with Units 3 and 4. These specifications and conditions ensure comparability, equity and validity in assessment.

Within the requirements set out in this syllabus and the *QCE and QCIA policy and procedures handbook*, schools have autonomy to decide:

- specific assessment task details
- assessment contexts to suit available resources
- how the assessment task will be integrated with teaching and learning activities
- how authentic the task will be.

In Unit 1 and Unit 2, schools:

- develop at least two but no more than four assessments
- complete at least one assessment for each unit
- ensure that each unit objective is assessed at least once.

In Units 3 and 4, schools develop four assessments using the assessment specifications and conditions provided in the syllabus.

More information about assessment in senior syllabuses is available in 'The assessment system' section of the *QCE and QCIA policy and procedures handbook*.

2.3.4 Subject matter

Each unit contains a unit description, unit objectives and subject matter. Subject matter is the body of information, mental procedures and psychomotor procedures (see Marzano & Kendall 2007, 2008) that are necessary for students' learning and engagement with the subject. Subject matter itself is not the specification of learning experiences but provides the basis for the design of student learning experiences.

Subject matter has a direct relationship with the unit objectives and provides statements of learning that have been constructed in a similar way to objectives.

2.3.5 Aboriginal perspectives and Torres Strait Islander perspectives

The QCAA is committed to reconciliation. As part of its commitment, the QCAA affirms that:

- Aboriginal peoples and Torres Strait Islander peoples are the first Australians, and have the oldest living cultures in human history
- Aboriginal peoples and Torres Strait Islander peoples have strong cultural traditions and speak diverse languages and dialects, other than Standard Australian English
- teaching and learning in Queensland schools should provide opportunities for students to deepen their knowledge of Australia by engaging with the perspectives of Aboriginal peoples and Torres Strait Islander peoples
- positive outcomes for Aboriginal students and Torres Strait Islander students are supported by successfully embedding Aboriginal perspectives and Torres Strait Islander perspectives across planning, teaching and assessing student achievement.

Guidelines about Aboriginal perspectives and Torres Strait Islander perspectives and resources for teaching are available at www.qcaa.qld.edu.au/k-12-policies/aboriginal-torres-strait-islander-perspectives.

Where appropriate, Aboriginal perspectives and Torres Strait Islander perspectives have been embedded in the subject matter.

2.3.6 Complementary skills

Opportunities for the development of complementary skills have been embedded throughout subject matter. These skills, which overlap and interact with syllabus subject matter, are derived from current education, industry and community expectations and encompass the knowledge, skills, capabilities, behaviours and dispositions that will help students live and work successfully in the 21st century.

These complementary skills are:

- literacy — the knowledge, skills, behaviours and dispositions about language and texts essential for understanding and conveying English language content
- numeracy — the knowledge, skills, behaviours and dispositions that students need to use mathematics in a wide range of situations, to recognise and understand the role of mathematics in the world, and to develop the dispositions and capacities to use mathematical knowledge and skills purposefully
- 21st century skills — the attributes and skills students need to prepare them for higher education, work, and engagement in a complex and rapidly changing world. These skills include critical thinking, creative thinking, communication, collaboration and teamwork, personal and social skills, and digital literacy. The explanations of associated skills are available at www.qcaa.qld.edu.au/senior/senior-subjects/general-subjects/21st-century-skills .

It is expected that aspects of literacy, numeracy and 21st century skills will be developed by engaging in the learning outlined in this syllabus. Teachers may choose to create additional explicit and intentional opportunities for the development of these skills as they design the course of study.

2.3.7 Additional subject-specific information

Additional subject-specific information has been included to support and inform the development of a course of study.

Risk management

Schools will need to appropriately manage the risks associated with equipment and materials used in this course of study.

Risk management processes will include safe operating procedures, record-keeping of maintenance and risk assessments for high-risk equipment.

Further information to assist schools with health and safety is available at https://education.qld.gov.au/initiatives-and-strategies/health-and-wellbeing/workplaces.

Support material to manage risks is available at https://education.qld.gov.au/initiatives-and-strategies/health-and-wellbeing/workplaces/safety/managing/industrial-technology-design.

2.4 Reporting

General information about determining and reporting results for senior syllabuses is provided in the 'Determining and reporting results' section of the *QCE and QCIA policy and procedures handbook*.

2.4.1 Reporting standards

Reporting standards are summary statements that describe typical performance at each of the five levels (A–E).

A
The student shows proficient demonstration of construction industry practices, and production skills and procedures when constructing structures. They demonstrate insightful and justified interpretation of drawings and technical information. The student discerningly selects industry practices, and production skills and procedures. When constructing they strategically sequence production processes. They provide insightful and justified evaluations of production skills, procedures and structures. The student's adaptation of production plans, skills and procedures is insightful and justified when constructing structures.
B
The student shows efficient demonstration of construction industry practices, and production skills and procedures when constructing structures. They demonstrate detailed and supported interpretation of drawings and technical information. The student thoroughly selects industry practices, and production skills and procedures. When constructing they consider how to sequence production processes. They provide detailed and supported evaluations of production skills, procedures and structures. The student's adaptation of production plans, skills and procedures is detailed and supported when constructing structures.
C
The student shows demonstration of construction industry practices, and production skills and procedures when constructing structures. They demonstrate interpretation of drawings and technical information. The student selects industry practices, and production skills and procedures. When constructing they sequence production processes. They provide evaluations of production skills, procedures and structures. The student adapts production plans, skills and procedures when constructing structures.
D
The student shows rudimentary demonstration of construction industry practices, and production skills and procedures when constructing structures. They demonstrate narrow and unsupported interpretation of drawings and technical information. The student inconsistently selects industry practices, and production skills and procedures. When constructing they inconsistently sequence production skills or procedures. They provide narrow and unsupported evaluations of production skills, procedures and structures. The student's adaptation of production plans, skills and procedures is narrow and unsupported when constructing structures.
E
The student shows incorrect demonstration of construction industry practices, and production skills and procedures when constructing structures. They demonstrate superficial and unsubstantiated interpretation of drawings and technical information. The student incorrectly selects industry practices, and production skills and procedures. When constructing they incorrectly sequence production skills or procedures. They provide superficial and unsubstantiated evaluations of production skills, procedures and structures. The student's adaptation of production plans, skills and procedures is superficial and unsubstantiated when constructing structures.

2.4.2 Determining and reporting results

Unit 1 and Unit 2

Schools make A–E judgments on individual assessment instruments implemented in Unit 1 and Unit 2 using reporting standards.

Schools report results to the QCAA for students who complete Unit 1 and/or Unit 2. Results are reported as satisfactory (S) or unsatisfactory (U). Where appropriate, schools may also report a not rated (NR).

Units 3 and 4

Schools make A–E judgments on each of the four assessment instruments implemented in Units 3 and 4 using instrument-specific standards (ISS).

Schools report instrument results to the QCAA for students enrolled in Units 3 and 4 for each of the four assessments implemented. Where appropriate, schools may also report a not rated (NR).

Schools are also responsible for determining and reporting an A–E final subject result to the QCAA. The subject result is an on-balance judgment about how the pattern of evidence across the four assessments in Units 3 and 4 best matches the characteristics of the reporting standards at one of five levels (A–E).

3 Unit options

3.1 Unit option A: Site preparation and foundations

In this unit, students demonstrate building and construction fundamental ways of working in landscaping and concreting contexts. They use tools, machinery and equipment safely and recognise that structures are constructed to specifications that detail the expected quality standards of the completed structure, e.g. size, type and grade of landscaping and concreting materials, building codes, site and surface finishes. Students evaluate, make decisions about and adapt construction plans, and production skills and procedures, and structures, with the knowledge that the quality of structures depends on customer expectations of value, which affects industry production processes.

3.1.1 Unit objectives

1. Demonstrate site preparation and foundations industry practices, and production skills and procedures.
2. Interpret site preparation and foundations drawings and technical information.
3. Select site preparation and foundations industry practices, and production skills and procedures.
4. Sequence site preparation and foundations production processes.
5. Evaluate site preparation and foundations production skills and procedures, and structures.
6. Adapt site preparation and foundations construction plans, and production skills and procedures.

3.1.2 Subject matter

Pathways

- Recognise industry career pathways for building and construction workers in the domestic building, commercial and civil construction industries, including
  - semi-skilled and trade occupations, e.g. trade assistant, landscaper, concreter
  - professional occupations, e.g. civil engineer, design drafter, quantity surveyor, architect, surveyor, building certifier.

Drawings and technical information

- Recognise project requirements from a simple detailed drawing that includes
  - basic orthogonal projections and pictorial views
  - basic architectural drawings (site plans, elevations and topography)
  - dimensions, symbols, annotations and scales
  - surface finish details.
- Recognise project requirements to identify potential hazards and apply control measures.
- Examine industry drawings to identify
  - naming conventions for site preparation and foundations materials, e.g. tensile strength, toughness, durability, aesthetics, hardness, density, mass, corrosion, grain of timber and shrinkage
  - basic drawing standards, including
    - dimensions, symbols, annotations and scales
    - plain and solid shapes, including orthographic, sectional and isometric (pictorial view)
    - drawing details, including site and formwork sizes and joinery, materials, hardware and fixing.
- Interpret a
  - simple site plan drawing of a surveyed space that is excavated and levelled using landscaping tools and machines, e.g. preparing a concrete slab site
  - detailed drawing of a concreting structure that contains formwork joinery, hardware and reinforcement, e.g. simulated concrete slab, concrete structure.

Production processes

- Demonstrate preparation skills and procedures using tools and machinery, including
  - use of safe work practices
  - setting up and positioning of machine guards and attachments
  - tool storage and maintenance
  - machine settings, e.g. tooling, blades, cutter, speed, feed selection
  - replacement and disposal
  - general housekeeping.
- Demonstrate marking-out skills and procedures using relevant tools, including
  - skills using measuring/marking-out tools, e.g. tape measure, rule, square, combination set, bevel, divider, chalk line, marking gauge, protractor, level
  - procedures used to measure, estimate and calculate materials, e.g. length, diameter, volume, thickness, area, percentages, perimeters.
- Demonstrate cutting skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. hammer, chisel, sledgehammer, pick, mattock, shovel
  - skills using power tools, e.g. drills, jigsaw, circular saw, drop saw, mitre saw, grinder, tile-cutting saw and brick saw
  - skills using machinery, e.g. concrete mixer, post-hole digger, vibrating plate, mini loader
  - procedures for and safe methods of cutting a range of materials, e.g. soils, timber.
- Demonstrate joining skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. claw hammer, screwdrivers, clamps, pliers, spanner, caulking gun and adhesive applicators
  - skills using power tools, e.g. drills, screwdrivers, nail guns, air tools and compressors
  - procedures for and safe methods of joining a range of materials, e.g. sand, gravel, cement, formwork, timbers.
- Demonstrate machining skills and procedures using relevant machinery, including
  - skills using machinery, e.g. concrete mixer, post-hole digger, vibrating plate, mini loader
  - procedures for and safe methods of machining a range of materials, e.g. soils, timber.
- Demonstrate forming skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. rake, pick, mattock, shovel, crowbar
  - skills using machinery, e.g. vibrating plate, mini loader
  - procedures for and safe methods of forming a range of materials, e.g. soils, timber.
- Demonstrate finishing skills and procedures using relevant machinery, including
  - skills using hand tools, e.g. brushes, roller, hammer, mallet, holding device, spray gun, trowel, sanding float, scraper, spatula, floats, screed
  - skills using power tools, e.g. belt and orbital sander, spray gun, air compressor, grinder, mixer
  - procedures for and safe methods of finishing a range of materials, e.g. landscaped areas, concrete, timbers.

Industry practices

- Recognise industry practices relevant to site preparation and foundations regarding customer expectations of structure quality, including
  - accuracy, including tolerances or allowances in drawings
  - finish, including site preparation and concrete surface finish
  - cost, including minimising waste materials, working efficiently, working with others effectively
  - completion in agreed timeframes, e.g. working to a construction schedule.
- Recognise surveying, levelling and excavating skills and procedures, including
  - types of surveys, e.g. topographic surveys, building and construction surveys, aerial surveys
  - the surveying process, e.g. reconnaissance phase, measurement and marking phase, plan preparation phase
  - methods of obtaining differences in height, e.g. spirit levelling, barometric heighting, trigonometrical heighting, electronic levelling
  - level traversing
    - rise and fall method, RLnew = RLold + Rise – Fall, where RL= reduced level
    - height of collimation method
  - excavating methods, e.g. shielding, shoring, benching, battering.
- Recognise concreting, footings and formwork skills and procedures, including
  - types of concreting finishes, e.g. raw, broomed, polished, exposed aggregate, tinted
  - types of footings, e.g. strip footings, concrete pad footings, pole construction (post and concrete), grout injected piles, timber piles
  - chemical reactions and mixing ratios for concrete, e.g. ratio of ingredients that determine strength, durability and workability
  - types of formwork used in concrete construction, e.g. traditional formwork and modular formwork
  - types of footings, e.g. wall footing/strip footing, spread footings, isolated footings, stepped footings, combined footings, sloped footings, mat or raft foundation, strapped footings.
- Select and demonstrate workplace health and safety practices in landscaping and concreting construction tasks, including
  - construction worker rights, responsibilities and obligations under the Work Health and Safety Act 2011 (Qld)
  - industry-specific requirements, including codes of practice for workplace machinery and equipment, e.g. preparing, cutting, joining and finishing tools, machines and equipment
  - safe operating procedures for preparing, cutting, joining and finishing tools, machines and equipment
  - risk assessments for jobsite processes, including use of safety data sheets for consumables such as paints, solvents, sealants and adhesives
  - safe and appropriate use of personal protective equipment (PPE).

- Demonstrate industry-related personal attributes for landscapers or concreters, including
  - communication skills, including
    - use of technical language, including main components of a site preparation and foundations, precise measuring tool names and uses, landscaping and concreting procedures and uses, consumables and types of materials
    - written skills, including producing textual and visual information, e.g. rough sketches to communicate technical information to others
    - oral skills, including speaking and listening to others, e.g. providing explanations, negotiating, asking clarifying questions and following instructions
  - teamwork, including individual responsibility and accountability
  - integrity, initiative, independence and work ethic.
- Select and demonstrate production skills and procedures to complete a construction exercise (e.g. site preparation exercise, basic concreting task), including
  - elementary marking-out skills and procedures using information from a basic drawing
  - cutting skills and procedures, including levelling and excavating soils and timber formwork
  - forming skills and procedures, including levelling and excavating soils, mixing and laying concrete
  - finishing skills and procedures, including painting, landscaping and finishing concreted structures.
- Document construction plans, including cutting list, construction sequence, safety (risk assessments), working with others, evaluation of construction processes and the structure, the adaptations made to improve the construction plan, skills used, and procedures undertaken.
- Determine the sequence of production processes required to construct the structure, including acknowledgment of
  - available cutting, preparing, joining, mixing and finishing equipment, machinery, tools
  - working and communicating with others in the workplace
  - working to a construction schedule
  - minimising waste, including time and materials.
- Evaluate production skills and procedures, and the structure, using knowledge of industry practices and drawing requirements, including
  - material cut and machine size errors, availability and storage
  - working with others, e.g. communication, cooperation
  - structure accuracy and quality
  - construction sequence issues, errors or constraints, e.g. time restrictions or delays
  - equipment availability, suitability and performance
  - waste, including time and cost.

- Adapt construction plans, and production skills and procedures, including
  - construction sequence
  - tool and machine use
  - cutting, joining, machining and finishing defects
  - mixing ratios and cure times to ensure structural integrity
  - component limits, fits and tolerance
  - out of tolerance errors, e.g. incorrect structure size or finish
  - material joinery defects that may include aesthetics, fixing and hardware application
  - out of square or strength or durability concerns
  - cleaning site space and tools and inspecting structure conformance to drawing requirements.

3.2 Unit option B: Framing and cladding

In this unit, students demonstrate building and construction fundamental ways of working in framing and cladding contexts. They use tools, machinery and equipment safely and recognise that structures are constructed to specifications that detail the expected quality standards of the completed structure, e.g. size, type and grade of carpentry and brick/block working materials, building codes, site and surface finishes. Students evaluate, make decisions about and adapt construction plans, and production skills and procedures, and structures, with the knowledge that the quality of structures depends on customer expectations of value, which affects industry production processes.

3.2.1 Unit objectives

1. Demonstrate framing and cladding industry practices, and production skills and procedures.
2. Interpret framing and cladding drawings and technical information.
3. Select framing and cladding industry practices, and production skills and procedures.
4. Sequence framing and cladding production processes.
5. Evaluate framing and cladding production skills and procedures, and structures.
6. Adapt framing and cladding construction plans, and production skills and procedures.

3.2.2 Subject matter

Pathways

- Recognise industry career pathways for building and construction workers in the domestic building, commercial and civil construction industries, including
  - semi-skilled and trade occupations, e.g. trade assistant, carpenter, bricklayer and block layer
  - professional occupations, e.g. civil engineer, design drafter, quantity surveyor, architect, surveyor, building certifier.

Drawings and technical information

- Recognise project requirements from a simple detailed drawing that includes
  - basic orthogonal projections and pictorial views
  - basic architectural drawings (floor plans, elevations and construction drawings)
  - dimensions, symbols, annotations and scales
  - surface finish details.
- Recognise project requirements to identify potential hazards and apply control measures.
- Examine industry drawings to identify
  - naming conventions for framing and cladding materials e.g. tensile strength, toughness, durability, aesthetics, hardness, density, mass, corrosion, grain of timber and shrinkage
  - basic drawing standards, including
    - dimensions, symbols, annotations and scales
    - plain and solid shapes, including orthographic, sectional and isometric (pictorial view)
    - drawing details, including house plans and elevation sizes and joinery, materials, hardware and fixing.
- Interpret a
  - simple floor plan drawing that requires a scaled model that is framed and cladded using carpentry tools and machines, e.g. tiny house, granny flat model (one bedroom)
  - detailed drawing of a structure that contains masonry, framework joinery, fasteners and fixings, e.g. brick column pergola, scaled wall with brick veneer.

Production processes

- Demonstrate preparation skills and procedures using tools and machinery, including
  - use of safe work practices
  - setting up and positioning of machine guards and attachments
  - tool storage and maintenance
  - machine settings, e.g. tooling, blades, cutter, speed, feed selection
  - replacement and disposal
  - general housekeeping.

- Demonstrate marking-out skills and procedures using relevant tools, including
  - skills using measuring/marking-out tools, e.g. tape measure, rule, builders square, combination set, bevel, divider, chalk line, marking gauge, protractor, level
  - procedures used to measure, estimate and calculate materials, e.g. length, diameter, volume, thickness, area, percentages, perimeters.
- Demonstrate cutting skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. chisel, plane, handsaw, hacksaw and brick bolster/cold chisel
  - skills using power tools, e.g. drills, jigsaw, circular saw, drop saw, mitre saw, router, grinder, tile-cutting saw, brick saw
  - skills using machinery, e.g. panel saw, thicknesser, table router, concrete mixer
  - procedures for and safe methods of cutting a range of materials, e.g. fasteners, steel and timber framing, bricks and blockwork, cladding materials.
- Demonstrate joining skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. claw hammer, screwdrivers, rivet gun, clamps, pliers, spanner, caulking gun and building adhesive applicators
  - skills using power tools, e.g. drills and drivers, screwdrivers, nail guns, air tools and compressors
  - procedures for and safe methods of joining a range of materials, e.g. timber and steel framework, mortar, brick and blockwork, waterproofing membrane, cladding.
- Demonstrate machining skills and procedures using relevant machinery, including
  - skills using machinery, e.g. concrete mixer, panel saw, thicknesser, table router
  - procedures for and safe methods of machining a range of materials, e.g. timber, mortar, cladding materials.
- Demonstrate forming skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. hammer, plane, sand paper, trowel, floats, screed, jigs, vices
  - skills using machinery, e.g. table router, benders for plate, bar, pipe and tube
  - procedures for and safe methods of forming a range of materials, e.g. timber, steel, mortar, cladding materials.
- Demonstrate finishing skills and procedures using relevant machinery, including
  - skills using hand tools, e.g. brushes, roller, trowel, scraper, files, floats and screed, fasteners and other fixing materials
  - skills using power tools, e.g. belt and orbital sander, hammers, brad and framing guns, battery drills and drivers, clamps, spray gun, air compressor, grinder
  - procedures for and safe methods of finishing a range of materials, e.g. timber and steel, mortar, brick and blockwork, cladding and paint materials.

Industry practices

- Recognise industry practices relevant to framing and cladding regarding customer expectations of structure quality, including
  - accuracy, including tolerances or allowances in drawings
  - finish, including frame squareness and cladded surface finish
  - cost, including minimising waste materials, working efficiently, working with others effectively
  - completion in agreed timeframes, e.g. working to a construction schedule.
- Recognise framing and cladding skills and procedures, including
  - components of framing, including top and bottom plates, studs, lintels, noggins, bracings and trusses
  - framing and cladding materials, including timber and steel framing, structural insulated panels (SIPs), weatherboards, brick and block work
  - methods of fixing and fastening frames and cladding
  - methods of waterproofing framework.
- Recognise carpentry, bricklaying and block laying skills and procedures, including
  - subflooring components, e.g. brick pier/stumps/posts, bearers, joists
  - types of common roof designs, e.g. shed/flat, gable, hip, skillion
  - types of brickwork, e.g. solid brick walls, cavity brick walls, veneer brick walls
  - chemical reactions and mixing ratios for mortar, e.g. ratio of ingredients that determine strength, durability and workability.
- Select and demonstrate workplace health and safety practices in carpentry, bricklaying and block laying construction tasks, including
  - construction worker rights, responsibilities and obligations under the Work Health and Safety Act 2011 (Qld)
  - industry-specific requirements, including codes of practice for workplace machinery and equipment, e.g. preparing, cutting, joining and finishing tools, machines and equipment
  - safe operating procedures for preparing, cutting, joining and finishing tools, machines and equipment
  - risk assessments for jobsite processes, including use of safety data sheets for consumables such as paints, solvents, sealants and adhesives
  - safe and appropriate use of personal protective equipment (PPE).
- Demonstrate industry-related personal attributes for carpenters, bricklayers or block layers, including
  - communication skills, including
    - use of technical language, including tool names and uses; cutting, machining and joinery procedures and uses; consumables; and types of materials
    - written skills, including producing textual and visual information, e.g. rough sketches to communicate technical information to others
    - oral skills, including speaking and listening to others, e.g. explaining, negotiating, asking clarifying questions and following instructions
  - teamwork, including individual responsibility and accountability
  - integrity, initiative, independence and work ethic.

- Select and demonstrate production skills and procedures to complete a construction exercise (e.g. outdoor seating with framed and brick/block components), including
  - elementary marking-out skills and procedures using information from a basic drawing
  - cutting skills and procedures, including framework, bricks/blocks and cladding
  - forming skills and procedures, including shaping timber, mixing and laying mortar
  - finishing skills and procedures, including constructing framework, installing and painting cladded structures.
- Document construction plans, including cutting list, costing, construction sequence, safety (risk assessments), working with others, evaluation of construction processes and the structure, the adaptations made to improve the construction plan, skills used, and procedures undertaken.
- Determine the sequence of production processes required to construct the structure, including acknowledgment of
  - available cutting, preparing, joining, mixing and finishing equipment, machinery, tools
  - working and communicating with others in the workplace
  - working to a construction schedule
  - minimising waste, including time and materials.
- Evaluate production skills and procedures, and the structure, using knowledge of industry practices and drawing requirements, including
  - material cut and machine size errors, availability and storage
  - working with others, e.g. communication, cooperation
  - structure accuracy and quality
  - construction sequence issues, errors or constraints, e.g. time restrictions or delays
  - equipment availability, suitability and performance
  - waste, including time and cost.
- Adapt construction plans, and production skills and procedures, including
  - construction sequence
  - tool and machine use
  - framing and cladding procedures due to defects
  - material joinery defects that may include aesthetics, fixing and hardware application
  - out of square or strength and durability concerns
  - out of tolerance errors, e.g. incorrect structure size or finish
  - finishing structure in conformance to drawing requirements
  - inspecting structures finishes and structural integrity for conformance to drawing requirements.

3.3 Unit option C: Fixing and finishing

In this unit, students demonstrate building and construction fundamental ways of working in residential fixing and finishing contexts. They use tools, machinery and equipment safely and recognise that structures are constructed to specifications that detail the expected quality standards of the completed structure, e.g. size, type and grade of fixing and finishing materials, building codes, internal and external finishes. Students evaluate, make decisions about and adapt construction plans, and production skills and procedures, and structures, with the knowledge that the quality of structures depends on customer expectations of value, which affects industry production processes.

3.3.1 Unit objectives

1. Demonstrate fixing and finishing industry practices, and production skills and procedures.
2. Interpret fixing and finishing drawings and technical information.
3. Select fixing and finishing industry practices, and production skills and procedures.
4. Sequence fixing and finishing production processes.
5. Evaluate fixing and finishing production skills and procedures, and structures.
6. Adapt fixing and finishing construction plans, and production skills and procedures.

3.3.2 Subject matter

Pathways

- Recognise industry career pathways for building and construction workers in the domestic building, commercial and civil construction industries, including
  - semi-skilled and trade occupations, e.g. trade assistant, carpenter, tiler, plasterer, painter, roofer, plumber, waterproofer, decorators
  - professional occupations, e.g. civil engineer, design drafter, quantity surveyor, architect, surveyor, building certifier.

Drawings and technical information

- Recognise project requirements from a simple detailed drawing that includes
  - basic orthogonal projections and pictorial views
  - basic architectural drawings (floor plans, elevations and construction drawings)
  - dimensions, symbols, annotations and scales
  - surface finish details.
- Recognise project requirements to identify potential hazards and apply control measures.
- Examine industry drawings to identify
  - naming conventions for residential fixing and finishing materials e.g. tensile strength, toughness, durability, aesthetics, hardness, density, mass, corrosion, grain of timber and shrinkage
  - basic drawing standards, including
    - dimensions, symbols, annotations and scales
    - plain and solid shapes, including orthographic, sectional and isometric (pictorial view)
    - drawing details, including house plans and elevations, sizes and joinery, materials, hardware and fixing.
- Interpret a
  - simple construction drawing that requires plastering, painting and tiling construction tools and machines to construct the structure, e.g. tiled BBQ or kitchen outdoor setting
  - detailed drawing of a structure that requires plastering, painting and tiling techniques, and construction tools and machines to construct the structure, e.g. scaled tiled wet area with waterproofing.

Production processes

- Demonstrate preparation skills and procedures using tools and machinery, including
  - use of safe work practices
  - setting up and positioning of machine guards and attachments
  - tool storage and maintenance
  - machine settings, e.g. tooling, blades, cutter, speed, feed selection
  - replacement and disposal
  - general housekeeping.
- Demonstrate marking-out skills and procedures using relevant tools, including
  - skills using measuring/marking-out tools, e.g. tape measure, rule, builders square, combination set, bevel, divider, chalk line, marking gauge, protractor, level
  - procedures used to measure, estimate and calculate materials, e.g. length, diameter, volume, thickness, area, percentages, perimeters.
- Demonstrate cutting skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. chisel, plane, handsaw, hacksaw, tile cutter
  - skills using power tools, e.g. drills, jigsaw, angle grinder, circular saw, drop saw, mitre saw, router, grinder, tile-cutting saw
  - skills using machinery, e.g. panel saw, thicknesser, table router
  - procedures for and safe methods of cutting a range of materials, e.g. plasterboard, steel and timber framing, cladding materials.
- Demonstrate joining skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. claw hammer, screwdrivers, rivet gun, clamps, pliers, spanner, caulking gun and building adhesive, tile trowel and tile glue applicators
  - skills using power tools, e.g. drills and drivers, screwdrivers, nail guns, air tools and compressors
  - procedures for and safe methods of joining a range of materials, e.g. plasterboard, cornice and architraves, timber framing and cladding materials, waterproofing membrane, tile glue and grout.
- Demonstrate machining skills and procedures using relevant machinery, including
  - skills using machinery, e.g. panel saw, thicknesser and table router
  - procedures for and safe methods of machining a range of materials, e.g. timber and composite materials.
- Demonstrate forming skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. hammer, plane, sand paper, trowel, floats, screed, jigs, vices
  - procedures for and safe methods of forming a range of materials, e.g. timber, steel, plasterboard and tile materials.
- Demonstrate finishing skills and procedures using relevant machinery, including
  - skills using hand tools, e.g. brushes, roller, trowel, scraper, fasteners and other fixing materials
  - skills using power tools, e.g. belt and orbital sander, hammers, battery drills and drivers
  - procedures for and safe methods of finishing a range of materials, e.g. timber, steel, plasterboard, tile and paint materials.

Industry practices

- Recognise industry practices relevant to residential fixing and finishing regarding customer expectations of structure quality, including
  - accuracy, including tolerances or allowances in drawings
  - finish, including interior and external surface finishes
  - cost, including minimising waste materials, working efficiently, working with others effectively
  - completion in agreed timeframes, e.g. working to a construction schedule.
- Recognise fixing and finishing skills and procedures, including
  - plastering materials, including plasterboard, fibre cement, adhesives, joining tape and plaster
  - painting materials, including paints, solvents and application methods
  - tiling materials, including tiles, adhesives and application methods.
- Recognise plastering, painting and tiling production skills and procedures, including
  - waterproofing regulations
  - types of common tiling patterns, e.g. herringbone, brick bond, windmill, basket weave, cobblestone.
- Recognise plumbing skills and procedures, including
  - types of tasks plumbers undertake, e.g. service rough-ins and pipe work, fittings and tap wear installation.
- Select and demonstrate workplace health and safety practices in fixing and finishing construction tasks, including
  - construction worker rights, responsibilities and obligations under the Work Health and Safety Act 2011 (Qld)
  - industry-specific requirements, including codes of practice for workplace machinery and equipment, e.g. preparing, cutting, joining, and finishing tools, machines and equipment
  - safe operating procedures for preparing, cutting, joining and finishing tools, machines and equipment
  - risk assessments for jobsite processes, including use of safety data sheets for consumables such as paints, solvents, sealants and adhesives
  - safe and appropriate use of personal protective equipment (PPE).
- Demonstrate industry-related personal attributes for internal and external fixing and finishing workers, including
  - communication skills, including
    - use of technical language, including tool names and uses, cutting, machining and joinery procedures and uses, consumables, types of materials
    - written skills, including producing textual and visual information, e.g. rough sketches to communicate technical information to others
    - oral skills, including speaking and listening to others, e.g. explaining, negotiating, asking clarifying questions and following instructions
  - teamwork, including individual responsibility and accountability
  - integrity, initiative, independence and work ethic.

- Select and demonstrate production skills and procedures to complete a construction exercise (e.g. plastering and repainting a damaged wall, installing an external door or window with painted finish, replacing a damaged tile), including
  - elementary marking-out skills and procedures using information from a basic drawing
  - cutting skills and procedures, including plasterboard, timbers, steel, composites and tiles
  - forming skills and procedures, including mixing plaster
  - finishing skills and procedures, including plastering and painting or installing fixings.
- Document construction plans, including cutting list, construction sequence, safety (risk assessments), working with others, evaluation of construction processes and the structure, the adaptations made to improve the construction plan, skills used, and procedures undertaken.
- Determine the sequence of production processes required to construct the structure, including acknowledgment of
  - available cutting, preparing, joining, mixing and finishing equipment, machinery, tools
  - working and communicating with others in the workplace
  - working to a construction schedule
  - minimising waste, including time and materials.
- Evaluate production skills and procedures, and the structure, using knowledge of industry practices and drawing requirements, including
  - material cut and machine size errors, availability and storage
  - working with others, e.g. communication, cooperation
  - structure accuracy and quality
  - construction sequence issues, errors or constraints, e.g. time restrictions or delays
  - equipment availability, suitability and performance
  - waste, including time and cost.
- Adapt construction plans, and production skills and procedures, including
  - construction sequence
  - tool and machine use
  - material joinery and cutting defects that may include aesthetics, fixing and hardware application
  - plastering, painting and tiling skills and procedures due to defects
  - out of square or strength and durability concerns
  - out of tolerance errors, e.g. incorrect structure size or finish
  - finishing structures in conformance to drawing requirements
  - inspecting structure finishes and structural integrity for conformance to drawing requirements.

3.4 Unit option D: Construction in the domestic building industry

In this unit, students demonstrate the domestic building industry's fundamental ways of working in residential building and construction contexts. They use tools, machinery and equipment safely and recognise that domestic building structures are constructed to specifications that detail the expected quality standards of the completed structure, e.g. size, type and grade of building and construction materials, building codes, internal and external finishes. Students evaluate, make decisions about and adapt construction plans, and production skills and procedures, and structures, with the knowledge that the quality of structures depends on customer expectations of value, which affects the domestic building industry's application and use of particular production processes and methods.

3.4.1 Unit objectives

1. Demonstrate domestic building industry practices, and production skills and procedures.
2. Interpret domestic building drawings and technical information.
3. Select domestic building industry practices, and production skills and procedures.
4. Sequence domestic building construction processes.
5. Evaluate domestic building production skills and procedures, and structures.
6. Adapt domestic building construction plans, and production skills and procedures.

3.4.2 Subject matter

Pathways

- Recognise
  - domestic building enterprise career pathways, e.g. concreter, carpenter, plumber, electrician, plasterer and painter
  - roles in domestic building enterprises, including
    - draftsperson, e.g. building design — architectural, interior and services
    - tradesperson, e.g. contractor and subcontractor
    - supervision roles, e.g. site manager, project supervisor
    - materials management roles
    - safety management roles, e.g. safety supervisor
    - quality assurance management roles, e.g. building inspector.

Drawings and technical information

- Recognise project requirements from a simple detailed drawing that includes
  - basic orthogonal projections and pictorial views
  - basic architectural drawings (floor plans, elevations and construction drawings)
  - dimensions, symbols, annotations and scales
  - surface finish details.
- Recognise project requirements to identify potential hazards and apply control measures.
- Examine industry drawings to identify
  - foundation plans used in domestic buildings, including essential structural elements and services, e.g. slab, footings, typical details and compliance notes
  - floor plans used in domestic buildings, including
    - framing specifications and notes
    - bearers, joists, beams and lintels
    - studs, top plates, bottom plates, trusses
    - bracing, window and door sizes
    - compliance notes and typical details
  - domestic building connections, including
    - joist and bearer connections, e.g. joist hanger, framing anchors and brackets
    - fixings for studwork, e.g. batten screws, framing nails
    - bolts and fixings for tiedowns and bracing, e.g. M12 bolts and batten screws
    - fixings for plasterboard and cladding, e.g. brad nails and screws
  - basic drawing standards, including
    - dimensions and tolerances
    - plain and solid shapes, including orthographic and isometric (pictorial view)
    - drawing technical information, including joining methods, e.g. connection and material notes and framing specifications and details.

- Interpret a
  - simple detailed drawing with technical information of a structure that includes multiple components, e.g. scaled deck or framed bathroom extension for a domestic building
  - detailed drawing with technical information of a domestic building structure that includes multiple production skills and procedures, e.g. cubby house or scaled domestic dwelling.

Production processes

- Demonstrate preparation skills and procedures using tools and machinery, including
  - use of safe work practices
  - setting up and positioning of machine guards and attachments
  - tool storage and maintenance
  - machine settings, e.g. tooling, blades, cutter, speed, feed selection
  - replacement and disposal
  - general housekeeping.
- Demonstrate marking-out skills and procedures using relevant tools, including
  - skills using measuring/marking-out tools, e.g. tape measure, rule, builders square, combination set, bevel, divider, chalk line, marking gauge, protractor, level
  - procedures used to measure, estimate and calculate materials, e.g. length, diameter, volume, thickness, area, percentages, perimeters.
- Demonstrate cutting skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. chisel, plane, handsaw, hacksaw and brick bolster/cold chisel
  - skills using power tools, e.g. drills, jigsaw, circular saw, drop saw, mitre saw, router, grinder, tile-cutting saw, brick saw
  - skills using machinery, e.g. panel saw, thicknesser, table router, concrete mixer
  - procedures for and safe methods of cutting a range of materials, e.g. fasteners, steel and timber framing, bricks and blockwork, and cladding materials.
- Demonstrate joining skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. claw hammer, screwdrivers, rivet gun, clamps, pliers, spanner, caulking gun and building adhesive applicators, tile trowel and tile glue applicators
  - skills using power tools, e.g. drills and drivers, screwdrivers, nail guns, air tools and compressors
  - procedures for and safe methods of joining a range of materials, e.g. timber and steel framework and cladding materials, mortar, brick and blockwork, plasterboard, cornice and architraves, waterproofing membrane, tile glue and grout.
- Demonstrate machining skills and procedures using relevant machinery, including
  - skills using machinery, e.g. concrete mixer, panel saw, thicknesser and table router
  - procedures for and safe methods of machining a range of materials, e.g. timber and steel, composite materials, mortar, cladding materials.

- Demonstrate forming skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. hammer, plane, sand paper, trowel, floats, screed, jigs and vices
  - skills using machinery, e.g. table router, benders for plate, bar, pipe and tube
  - procedures for and safe methods of forming a range of materials, e.g. timber, steel, mortar, cladding materials.
- Demonstrate finishing skills and procedures using relevant machinery, including
  - skills using hand tools, e.g. brushes, roller, trowel, scraper, files, floats and screed, fasteners and other fixing materials
  - skills using power tools, e.g. belt and orbital sander, hammers, brad and framing guns, battery drills and drivers, clamps, spray gun, air compressor and grinder
  - procedures for and safe methods of finishing a range of materials, e.g. timber and steel, mortar, brick and blockwork, cladding, tiling and paint materials.

Industry practices

- Recognise construction methods used in domestic building enterprises, including base, frame, lock-up fixing and completion stages
- Recognise domestic building industry practices relevant to staff who work as members of a team to construct domestic building structures, considering customer expectations of quality, including
  - accuracy, including knowledge of drawing and technical information, e.g. material connection and size allowances in drawings
  - cost, including minimising waste materials, working efficiently, working with others effectively
  - completion in agreed timeframes, e.g. working to a construction schedule.
  - team communication skills, including
    - use of technical language, including tool names and uses, cutting, machining, joining and assembling procedures and uses, consumables, types of materials
    - written skills, including producing textual and visual information, e.g. rough sketches of components and structures to communicate technical information to team members
    - oral skills, including speaking and listening to team members, e.g. explaining, negotiating, asking clarifying questions and following instructions
  - integrity, initiative, independence, responsibility and work ethic as a team member.

- Select and demonstrate workplace health and safety practices in domestic building industry construction tasks, ensuring these practices are maintained and followed, including
  - construction worker rights, responsibilities and obligations under the Work Health and Safety Act 2011 (Qld)
  - industry-specific requirements, including codes of practice for workplace machinery and equipment, e.g. preparing, cutting, forming, joining, machining and finishing tools, machines and equipment
  - safe operating procedures for preparing, cutting, forming, joining, machining and finishing tools, machines and equipment
  - risk assessments for jobsite processes, including use of safety data sheets for consumables such as paints, solvents, sealants and adhesives
  - safe and appropriate use of personal protective equipment (PPE).
- Demonstrate industry-related personal attributes for domestic building workers, including
  - communication skills, including
    - use of technical language, including tool names and uses, cutting, machining and joinery procedures and uses, consumables, types of materials
    - written skills, including producing textual and visual information, e.g. rough sketches to communicate technical information to others
    - oral skills, including speaking and listening to others, e.g. explaining, negotiating, asking clarifying questions and following instructions
  - teamwork, including individual responsibility and accountability
  - integrity, initiative, independence and work ethic.
- Select and demonstrate production skills and procedures to construct a basic component or structure as a member of a small domestic building construction team (e.g. builder's sawhorse or carryall) including
  - assigning team roles, e.g. building foreperson, tradesperson, labourer, safety manager
  - quality assurance processes, e.g. jigs and templates
  - basic marking-out procedures, using information from a basic drawing
  - basic domestic building cutting and joining skills and procedures, using information from a basic drawing
  - basic domestic building fixing and finishing procedures, using information from a basic drawing.
- Assign construction and management roles to construct a domestic building construction industry structure, using domestic building production skills and procedures.
- Make decisions about the
  - construction jigs and templates needed to construct the structure
  - allowances for inside and outside dimensions of interconnected components.
- Document construction plans, including cutting list, construction sequence, safety (risk assessments), working with others, evaluation of construction processes and the structure, the adaptations made to improve the construction plan, skills used, and procedures undertaken.

- Determine the sequence of production processes required to construct the structure, including acknowledgment of
  - available cutting, preparing, joining, mixing and finishing equipment, machinery, tools
  - working and communicating with others in the workplace
  - working to a construction schedule
  - minimising waste, including time and materials.
- Evaluate production skills and procedures, and the structure, using knowledge of domestic building industry practices and drawing requirements, including
  - material cut and machine size errors, availability and storage
  - template, jigs or construction checking errors or inconsistencies
  - working with others, e.g. communication and cooperation
  - structure accuracy and quality
  - construction sequence issues, errors or constraints, e.g. time restrictions or delays
  - equipment availability, suitability and performance
  - waste, including time and cost.
- Adapt construction plans, and production skills and procedures, including
  - construction sequence
  - jigs, templates and construction checks
  - tool and machine use
  - joint defects, including accuracy, fit and strength for conformance to drawing requirements
  - out of square, component size concerns or component alignment or fit errors
  - out of tolerance errors, e.g. incorrect structure size or finish
  - finishing structures to drawing requirements and customer expectations of quality.

3.5 Unit option E: Construction in the commercial building industry

In this unit, students demonstrate the commercial building industry's fundamental ways of working in non-residential building and construction contexts. They use tools, machinery and equipment safely and recognise that commercial building structures are constructed to specifications that detail the expected quality standards of the completed structure, e.g. size, type and grade of building and construction materials, building codes, internal and external finishes. Students evaluate, make decisions about and adapt construction plans, and production skills and procedures, and structures, with the knowledge that the quality of structures depends on customer expectations of value, which affects the commercial building industry's application and use of particular production processes and methods.

3.5.1 Unit objectives

1. Demonstrate commercial building industry practices, and production skills and procedures.
2. Interpret commercial building drawings and technical information.
3. Select commercial building industry practices, and production skills and procedures.
4. Sequence commercial building construction processes.
5. Evaluate commercial building production skills and procedures, and structures.
6. Adapt commercial building construction plans, and production skills and procedures.

3.5.2 Subject matter

Pathways

- Recognise commercial building career pathways, including
  - commercial builder
  - commercial construction carpenter and construction labourer
  - commercial plumber, electrician, plasterer and painter
  - draftsperson, e.g. building design, architect, CAD operative
  - tradesperson, e.g. contractor and subcontractor
  - project management roles, e.g. construction project manager, project supervisor
  - safety management roles, e.g. project safety officer, safety advisor
  - quality assurance management roles, e.g. building inspector.

Drawings and technical information

- Recognise project requirements from a simple detailed drawing that includes
  - basic orthogonal projections and pictorial views
  - basic architectural drawings (floor plans, elevations and construction drawings)
  - dimensions, symbols/annotations and scales
  - surface finish details.
- Recognise project requirements to identify potential hazards and apply control measures.
- Examine commercial building industry drawings to identify
  - multi-flooring commercial building elevations, sectional view
  - floor plan details used in commercial buildings, including
    - services and electrical
    - lift and stairwells
  - basic drawing standards, including
    - dimensions and tolerances
    - plain and solid shapes, including orthographic and isometric (pictorial view)
    - drawing technical information, including material notes and specifications.
- Interpret a
  - simple detailed drawing with technical information of a structure that includes multiple components, e.g. plastered and painted wall section for a commercial building
  - detailed drawing with technical information of a commercial building structure that includes multiple construction processes, e.g. commercial office kitchenette with tiled backsplash.

Production processes

- Demonstrate preparation skills and procedures using tools and machinery, including
  - use of safe work practices
  - setting up and positioning of machine guards and attachments
  - tool storage and maintenance
  - machine settings, e.g. tooling, blades, cutter, speed, feed selection
  - replacement and disposal
  - general housekeeping.
- Demonstrate marking-out skills and procedures using relevant tools, including
  - skills using measuring/marking-out tools, e.g. tape measure, rule, builders square, combination set, bevel, divider, chalk line, marking gauge, protractor, level
  - procedures used to measure, estimate and calculate materials, e.g. length, diameter, volume, thickness, area, percentages, perimeters.
- Demonstrate cutting skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. chisel, plane, handsaw, hacksaw and brick bolster/cold chisel
  - skills using power tools, e.g. drills, jigsaw, circular saw, drop saw, mitre saw, router, grinder, tile-cutting saw, brick saw
  - skills using machinery, e.g. panel saw, thicknesser, table router, concrete mixer
  - procedures for and safe methods of cutting a range of materials, e.g. fasteners, steel and timber framing, bricks and blockwork, and cladding materials.
- Demonstrate joining skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. claw hammer, screwdrivers, rivet gun, clamps, pliers, spanner, caulking gun and building adhesive applicators, tile trowel and tile glue applicators
  - skills using power tools, e.g. drills and drivers, screwdrivers, nail guns, air tools and compressors
  - procedures for and safe methods of joining a range of materials, e.g. timber and steel framework and cladding materials, mortar, brick and blockwork, plasterboard, cornice and architraves, waterproofing membrane, tile glue and grout.
- Demonstrate machining skills and procedures using relevant machinery, including
  - skills using machinery, e.g. concrete mixer, panel saw, thicknesser and table router
  - procedures for and safe methods of machining a range of materials, e.g. timber and steel, composite materials, mortar, cladding materials.
- Demonstrate forming skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. hammer, plane, sand paper, trowel, floats, screed, jigs, vices
  - skills using machinery, e.g. table router, benders for plate, bar, pipe and tube
  - procedures for and safe methods of forming a range of materials, e.g. timber, steel, mortar, and cladding materials.

- Demonstrate finishing skills and procedures using relevant machinery, including
  - skills using hand tools, e.g. brushes, roller, trowel, scraper, files, floats and screed, fasteners and other fixing materials
  - skills using power tools, e.g. belt and orbital sander, hammers, brad and framing guns, battery drills and drivers, clamps, spray gun, air compressor and grinder
  - procedures for and safe methods of finishing a range of materials, e.g. timber and steel, mortar, brick and blockwork, cladding, tiling and paint materials.

Industry practices

- Recognise construction methods used in commercial building enterprises, including planning and development, design, pre-construction, procurement, construction, post-construction.
- Recognise commercial building industry practices relevant to staff who work as members of a team to construct commercial building structures, considering customer expectations of quality, including
  - accuracy, including knowledge of drawing and technical information, e.g. material connection and size allowances in drawings
  - cost, including minimising waste materials, working efficiently, working with others effectively
  - completion in agreed timeframes, e.g. working to a construction schedule
  - team communication skills, including
    - use of technical language, including tool names and uses, cutting, machining, joining and assembling procedures and uses, consumables, types of materials
    - written skills, including producing textual and visual information, e.g. rough sketches of components and structures to communicate technical information to team members
    - oral skills, including speaking and listening to team members, e.g. explaining, negotiating, asking clarifying questions and following instructions
  - integrity, initiative, independence, responsibility and work ethic as a team member.
- Select and demonstrate workplace health and safety practices in commercial building industry construction tasks, ensuring these practices are maintained and followed, including
  - construction worker rights, responsibilities and obligations under the Work Health and Safety Act 2011 (Qld)
  - industry-specific requirements, including codes of practice for workplace machinery and equipment, e.g. preparing, cutting, forming, joining, machining and finishing tools, machines and equipment
  - safe operating procedures for preparing, cutting, forming, joining, machining and finishing tools, machines and equipment
  - risk assessments for jobsite processes, including use of safety data sheets for consumables such as paints, solvents, sealants and adhesives
  - safe and appropriate use of personal protective equipment (PPE).

- Demonstrate industry-related personal attributes for commercial building construction workers, including
  - communication skills, including
    - use of technical language, including tool names and uses, cutting, machining and joining procedures and uses, consumables, types of materials
    - written skills, including producing textual and visual information, e.g. rough sketches to communicate technical information to others
    - oral skills, including speaking and listening to others, e.g. explaining, negotiating, asking clarifying questions and following instructions
  - teamwork, including individual responsibility and accountability
  - integrity, initiative, independence and work ethic.
- Select and demonstrate production skills and procedures to construct a basic component or structure as a member of a small commercial building construction team (e.g. scaled steel frame wall), including
  - assigning team roles, e.g. project manager, tradesperson, labourer, safety manager
  - quality assurance processes, e.g. jigs and templates
  - basic marking-out procedures, using information from a basic drawing
  - basic commercial building cutting and joining skills and procedures, using information from a basic drawing
  - basic commercial building fixing and finishing procedures, using information from a basic drawing.
- Assign construction and management roles to construct a commercial building construction industry structure, using commercial building production skills and procedures.
- Make decisions about the
  - construction jigs and templates needed to construct the structure
  - allowances for inside and outside dimensions of interconnected components.
- Document construction plans, including cutting list, construction sequence, safety (risk assessments), working with others, evaluation of construction processes and the structure, the adaptations made to improve the construction plan, skills used, and procedures undertaken.
- Determine the sequence of production processes required to construct the structure, including acknowledgment of
  - available cutting, preparing, joining, mixing and finishing equipment, machinery, tools
  - working and communicating with others in the workplace
  - working to a construction schedule
  - minimising waste, including time and materials.

- Evaluate construction processes and structures, using knowledge of commercial building industry practices and drawing requirements, including
  - material cut and machine size errors, availability and storage
  - template, jigs or construction checking errors or inconsistencies
  - working with others, e.g. communication and cooperation
  - structure accuracy and quality
  - construction sequence issues, errors or constraints, e.g. time restrictions or delays
  - equipment availability, suitability and performance
  - waste, including time and cost.
- Adapt construction plans, and production skills and procedures, including
  - construction sequence
  - jigs, templates and construction checks
  - tool and machine use
  - joint defects, including accuracy, fit and strength for conformance to drawing requirements
  - out of square, component size concerns or component alignment or fit errors
  - out of tolerance errors, e.g. incorrect structure size or finish
  - finishing structures to drawing requirements and customer expectations of quality.

3.6 Unit option F: Construction in the civil construction industry

In this unit, students demonstrate the civil construction industry's fundamental ways of working in civil building and construction contexts. They use tools, machinery and equipment safely and recognise that civil construction structures are constructed to specifications that detail the expected quality standards of the completed structure, e.g. size, type and grade of building and construction materials, building codes, internal and external finishes. Students evaluate, make decisions about and adapt construction plans, and production skills and procedures, and structures, with the knowledge that the quality of structures depends on customer expectations of value, which affects the civil construction industry's application and use of particular production processes and methods.

3.6.1 Unit objectives

1. Demonstrate civil construction industry practices, and production skills and procedures.
2. Interpret civil construction drawings and technical information.
3. Select civil construction industry practices, and production skills and procedures.
4. Sequence civil construction processes.
5. Evaluate civil production skills and procedures, and structures.
6. Adapt civil construction plans, and production skills and procedures.

3.6.2 Subject matter

Pathways

- Explore civil construction enterprise career pathways, including
  - civil engineer
  - civil works contractor, labourer and plant operator
  - government and council civil construction affiliate
  - draftsperson, e.g. civil draftsperson, structural designer
  - tradesperson, e.g. contractor and subcontractor
  - project management roles, e.g. civil engineer, civil construction project manager
  - safety management roles, e.g. project safety officer, safety advisor
  - quality assurance management roles, e.g. civil construction inspector.

Drawings and technical information

- Recognise project requirements from a simple detailed drawing that includes
  - basic orthogonal projections and pictorial views
  - basic architectural drawings (site plans, elevations and construction drawings)
  - dimensions, symbols, annotations and scales
  - surface finish details.
- Recognise project requirements to identify potential hazards and apply control measures.
- Examine civil construction industry drawings to identify
  - site plans, maps, grading and detail drawings
  - non-habitable structure elevations, sectional views and floor plans
  - basic drawing standards, including
    - dimensions and tolerances
    - plain and solid shapes, including orthographic and isometric (pictorial view)
    - drawing technical information, including material notes and specifications.
- Interpret a
  - simple detailed drawing with technical information of a constructed non-habitable structure that includes multiple components, e.g. precast concrete bench seat with landscaped space
  - detailed drawing with technical information of a civil construction structure that includes multiple construction processes, e.g. scaled precast concrete mould and structure; scaled concrete bridge or suspended slab model.

Production processes

- Demonstrate preparation skills and procedures using tools and machinery, including
  - use of safe work practices
  - setting up and positioning of machine guards and attachments
  - tool storage and maintenance
  - machine settings, e.g. tooling, blades, cutter, speed, feed selection
  - replacement and disposal
  - general housekeeping.
- Demonstrate marking-out skills and procedures using relevant tools, including
  - skills using measuring/marking-out tools, e.g. tape measure, rule, builders square, combination set, bevel, divider, chalk line, marking gauge, protractor, level
  - procedures used to measure, estimate and calculate materials, e.g. length, diameter, volume, thickness, area, percentages, perimeters.
- Demonstrate cutting skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. chisel, plane, handsaw, hacksaw, sledgehammer, pick, mattock, shovel, crowbar
  - skills using power tools, e.g. drills, jigsaw, circular saw, drop saw, mitre saw, router, grinder, brick saw
  - skills using machinery, e.g. concrete mixer, post-hole digger, vibrating plate, mini loader panel saw, thicknesser, table router
  - procedures for and safe methods of cutting a range of materials, e.g. fasteners, steel and timber framing, bricks and blockwork, and concrete materials.
- Demonstrate joining skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. claw hammer, screwdrivers, rivet gun, clamps, pliers, spanner, caulking gun and building adhesive applicators, tile trowel and tile glue applicators
  - skills using power tools, e.g. drills and drivers, screwdrivers, nail guns, air tools and compressors
  - procedures for and safe methods of joining a range of materials, e.g. concrete, timber and composite formwork.
- Demonstrate machining skills and procedures using relevant machinery, including
  - skills using machinery, e.g. concrete mixer, post-hole digger, vibrating plate, mini loader panel saw, thicknesser, table router
  - procedures for and safe methods of machining a range of materials, e.g. concrete, timber and composite formwork.
- Demonstrate forming skills and procedures using relevant tools and machinery, including
  - skills using hand tools, e.g. rake, pick, mattock, shovel and crowbar, hammer, plane, sand paper, trowel, floats, screed, jigs and vices
  - skills using machinery, e.g. vibrating plate and mini loader
  - procedures for and safe methods of forming a range of materials, e.g. concrete, timber and composite formwork.

- Demonstrate finishing skills and procedures using relevant machinery, including
  - skills using hand tools, e.g. brushes, roller, trowel, scraper, files, floats and screed, fasteners and other fixing materials
  - skills using power tools, e.g. belt and orbital sander, hammers, brad and framing guns, battery drills and drivers, clamps, spray gun, air compressor and grinder
  - procedures for and safe methods of finishing a range of materials, e.g. concrete, timber and composite formwork.

Industry practices

- Recognise construction methods used in civil construction enterprises, including
  - government infrastructure, e.g. earth works and drainage, roads, bridges, airports, railways
  - local council infrastructure, e.g. parks and non-habitable structures and landscaped spaces.
- Recognise civil construction industry practices relevant to staff who work as members of a team to construct civil construction structures, considering customer expectations of quality, including
  - accuracy, including knowledge of drawing and technical information, e.g. material connection and size allowances in drawings
  - cost, including minimising waste materials, working efficiently, working with others effectively
  - completion in agreed timeframes, e.g. working to a construction schedule
  - team communication skills, including
    - use of technical language, including tool names and uses, cutting, machining, joining and assembling procedures and uses, consumables, types of materials
    - written skills, including producing textual and visual information, e.g. rough sketches of components and structures to communicate technical information to team members
    - oral skills, including speaking and listening to team members, e.g. explaining, negotiating, asking clarifying questions and following instructions
  - integrity, initiative, independence, responsibility and work ethic as a team member.
- Select and demonstrate workplace health and safety practices in civil construction industry construction tasks, ensuring these practices are maintained and followed, including
  - construction worker rights, responsibilities and obligations under the Work Health and Safety Act 2011 (Qld)
  - industry-specific requirements, including codes of practice for workplace machinery and equipment, e.g. preparing, cutting, forming, joining, machining and finishing tools, machines and equipment
  - safe operating procedures for preparing, cutting, forming, joining, machining and finishing tools, machines and equipment
  - risk assessments for jobsite processes, including use of safety data sheets for consumables such as paints, solvents, sealants and adhesives
  - safe and appropriate use of personal protective equipment (PPE).

- Demonstrate industry-related personal attributes for civil construction workers, including
  - communication skills, including
    - use of technical language, including tool names and uses, preparing, cutting, machining and joining and finishing procedures and uses, consumables, types of materials
    - written skills, including producing textual and visual information, e.g. rough sketches to communicate technical information to others
    - oral skills, including speaking and listening to others, e.g. explaining, negotiating, asking clarifying questions and following instructions
  - teamwork, including individual responsibility and accountability
  - integrity, initiative, independence and work ethic.
- Select and demonstrate production skills and procedures to construct a basic civil construction structure as a member of a small civil construction team (e.g. earthworks to construct drainage solutions) including
  - assigning team roles, e.g. project manager, tradesperson, labourer, safety manager
  - quality assurance processes, e.g. jigs and templates
  - basic marking-out procedures, using information from a basic drawing
  - basic civil construction preparing and cutting skills and procedures, using information from a basic drawing
  - basic civil construction finishing procedures, using information from a basic drawing.
- Assign construction and management roles to construct a civil construction industry structure using civil production skills and procedures.
- Make decisions about the
  - construction aids and templates needed to construct the structure
  - allowances for inside and outside dimensions of interconnected components.
- Document construction plans, including cutting list, construction sequence, safety (risk assessments), working with others, evaluation of construction processes and the structure, the adaptations made to improve the construction plan, skills used, and procedures undertaken.
- Determine the sequence of production processes required to construct the structure, including acknowledgment of
  - available cutting, preparing, joining, mixing and finishing equipment, machinery, tools
  - working and communicating with others in the workplace
  - working to a construction schedule
  - minimising waste, including time and materials.

- Evaluate construction processes and structures, using knowledge of civil construction industry practices and drawing requirements, including
  - material cut and machine size errors, availability and storage
  - template, jigs or construction checking errors or inconsistencies
  - working with others, e.g. communication and cooperation
  - structure accuracy and quality
  - construction sequence issues, errors or constraints, e.g. time restrictions or delays
  - equipment availability, suitability and performance
  - waste, including time and cost.
- Adapt construction plans, and production skills and procedures, including
  - construction sequence
  - tool and machine use
  - cutting, joining, machining and finishing defects
  - mixing ratios and cure times to ensure structural integrity
  - component limits, fits and tolerance
  - out of tolerance errors, e.g. incorrect structure size or finish
  - material joinery defects, including aesthetics, fixing and hardware application
  - out of square or strength or durability concerns
  - cleaning site space and tools and inspecting structure conformance to drawing requirements.

4 Assessment

4.1 Assessment A1: Practical demonstration — Site preparation and foundations

Students perform a practical demonstration when constructing a site preparation and foundations structure and reflect on industry practices, and production skills and procedures.

4.1.1 Assessment objectives

1. Demonstrate site preparation and foundations industry practices, and production skills and procedures.
2. Interpret site preparation and foundations drawings and technical information.
3. Select site preparation and foundations industry practices, and production skills and procedures.
5. Evaluate site preparation and foundations production skills and procedures, and structures.

4.1.2 Specifications

This task requires students to:

- interpret a provided drawing with technical information
- identify the skills required to construct a site preparation and foundations structure
- select industry practices, production skills and procedures
- annotate sketches, photographs and/or video footage to capture decision-making
- demonstrate production skills and procedures used in 3–5 production processes
- reflect on the industry practices, and production skills and procedures used to construct the structure.

It is recommended that this task is designed so that students can develop a response in approximately 10 hours of class time.

Stimulus specifications

Schools must provide suitably developed drawings and technical information to support students' demonstration of the assessment objectives across the full range of A–E instrument-specific standards.

4.1.3 Conditions

- Students can develop their responses in class time and their own time.
- This is an individual task.
- Students have access to materials, tools and equipment as required to complete the assessment.
- Structures constructed for Assessment A1 must be separate from the structure component of Assessment A2.

4.1.4 Response requirements

Practical demonstration of site preparation and foundations

Practical demonstration: the skills and procedures used in 3–5 production processes

Documentation

Multimodal (at least two modes delivered at the same time): up to 3 minutes, 6 A4 pages, or equivalent digital media

4.1.5 Instrument-specific standards

Demonstrate	Interpret	Select	Evaluate	Grade
The student response has the following characteristics:				
• proficient demonstration of industry practices, and production skills and procedures when constructing a site preparation and foundations structure	• insightful and justified interpretation of drawings and technical information when constructing a site preparation and foundations structure	• discerning selection of industry practices, and production skills and procedures when constructing a site preparation and foundations structure	• insightful and justified evaluation of production skills, procedures and a site preparation and foundations structure	A
• efficient demonstration of industry practices, and production skills and procedures when constructing a site preparation and foundations structure	• detailed and supported interpretation of drawings and technical information when constructing a site preparation and foundations structure	• thorough selection of industry practices, and production skills and procedures when constructing a site preparation and foundations structure	• detailed and supported evaluation of production skills, procedures and a site preparation and foundations structure	B
• demonstration of industry practices, and production skills and procedures when constructing a site preparation and foundations structure	• interpretation of drawings and technical information when constructing a site preparation and foundations structure	• selection of industry practices, and production skills and procedures when constructing a site preparation and foundations structure	• evaluation of production skills, procedures and a site preparation and foundations structure	C
• rudimentary demonstration of industry practices, and production skills and procedures when constructing a site preparation and foundations structure.	• narrow and unsupported interpretation of drawings and technical information when constructing a site preparation and foundations structure.	• inconsistent selection of industry practices, and production skills and procedures when constructing a site preparation and foundations structure.	• narrow and unsupported evaluation of production skills, procedures and a site preparation and foundations structure.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E

4.2 Assessment A2: Project — Site preparation and foundations

Students construct a site preparation and foundations structure and document the construction process.

4.2.1 Assessment objectives

1. Demonstrate site preparation and foundations industry practices, and production skills and procedures.
2. Interpret site preparation and foundations drawings and technical information.
3. Select site preparation and foundations industry practices, and production skills and procedures.
4. Sequence site preparation and foundations production processes.
5. Evaluate site preparation and foundations production skills and procedures, and structures.
6. Adapt site preparation and foundations construction plans, and production skills and procedures.

4.2.2 Specifications

This task requires students to:

- construct a site preparation and foundations structure by
  - demonstrating production skills and procedures used in 5–7 production processes
  - select industry practices, production skills and procedures
  - adapting production skills and procedures during construction to meet the requirements in the drawings and technical information
- document the construction process by
  - interpreting drawings and technical information for the construction of a site preparation and foundations structure
  - deciding on the industry practices, and production skills and procedures required to construct the structure
  - determining the sequence in which the construction processes will be implemented
- annotating sketches, photographs and/or video footage to capture decision-making
- reflecting on the quality of the completed structure, industry practices, and production skills and procedures used to construct the structure.

It is recommended that this task is designed so that students can develop a response in approximately 20 hours of class time.

Stimulus specifications

Schools must provide suitably developed drawings and technical information to support students' demonstration of the assessment objectives across the full range of A–E instrument-specific standards.

4.2.3 Conditions

- Students can develop their responses in class time and their own time.
- The construction can be completed individually or in groups. Students must be assessed individually.
- Students have access to materials, tools and equipment as required to complete the assessment.

4.2.4 Response requirements

Site preparation and foundations structure

Structure: 1 site preparation and foundations structure constructed using the skills and procedures in 5–7 production processes

Construction process

Multimodal (at least two modes delivered at the same time): up to 5 minutes, 8 A4 pages, or equivalent digital media

4.2.5 Instrument-specific standards

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
The student response has the following characteristics:						
• proficient demonstration of industry practices, and production skills and procedures when constructing a site preparation and foundations structure	• insightful and justified interpretation of drawings and technical information when constructing a site preparation and foundations structure	• discerning selection of industry practices, and production skills and procedures when constructing a site preparation and foundations structure	• strategic sequencing of production processes when constructing a site preparation and foundations structure	• insightful and justified evaluation of production skills, procedures and a site preparation and foundations structure	• insightful and justified adaptation of production plans, skills and procedures when constructing a site preparation and foundations structure	A
• efficient demonstration of industry practices, and production skills and procedures when constructing a site preparation and foundations structure	• detailed and supported interpretation of drawings and technical information when constructing a site preparation and foundations structure	• thorough selection of industry practices, and production skills and procedures when constructing a site preparation and foundations structure	• considered sequencing of production processes when constructing a site preparation and foundations structure	• detailed and supported evaluation of production skills, procedures and a site preparation and foundations structure	• detailed and supported adaptation of production plans, skills and procedures when constructing a site preparation and foundations structure	B
• demonstration of industry practices, and production skills and procedures when constructing a site preparation and foundations structure	• interpretation of drawings and technical information when constructing a site preparation and foundations structure	• selection of industry practices, and production skills and procedures when constructing a site preparation and foundations structure	• sequencing of production processes when constructing a site preparation and foundations structure	• evaluation of production skills, procedures and a site preparation and foundations structure	• adaptation of production plans, skills and procedures when constructing a site preparation and foundations structure	C

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
• rudimentary demonstration of industry practices, and production skills and procedures when constructing a site preparation and foundations structure.	• narrow and unsupported interpretation of drawings and technical information when constructing a site preparation and foundations structure.	• inconsistent selection of industry practices, and production skills and procedures when constructing a site preparation and foundations structure.	• inconsistent sequencing of production skills or procedures when constructing a site preparation and foundations structure.	• narrow and unsupported evaluation of production skills, procedures and a site preparation and foundations structure.	• narrow and unsupported adaptation of production plans, skills and procedures when constructing a site preparation and foundations structure.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E

4.3 Assessment B1: Practical demonstration — Framing and cladding

Students perform a practical demonstration when constructing a framing and cladding structure and reflect on industry practices, and production skills and procedures.

4.3.1 Assessment objectives

1. Demonstrate framing and cladding industry practices, and production skills and procedures.
2. Interpret framing and cladding drawings and technical information.
3. Select framing and cladding industry practices, and production skills and procedures.
5. Evaluate framing and cladding production skills and procedures, and structures.

4.3.2 Specifications

This task requires students to:

- interpret a provided drawing with technical information
- identify the skills required to construct a framing and cladding structure
- select industry practices, production skills and procedures
- annotate sketches, photographs and/or video footage to capture decision-making
- demonstrate production skills and procedures used in 3–5 production processes
- reflect on the industry practices, and production skills and procedures used to construct the structure.

It is recommended that this task is designed so that students can develop a response in approximately 10 hours of class time.

Stimulus specifications

Schools must provide suitably developed drawings and technical information to support students' demonstration of the assessment objectives across the full range of A–E instrument-specific standards.

4.3.3 Conditions

- Students can develop their responses in class time and their own time.
- This is an individual task.
- Students have access to materials, tools and equipment as required to complete the assessment.
- Structures constructed for Assessment B1 must be separate from the structure component of Assessment B2.

4.3.4 Response requirements

Practical demonstration of framing and cladding

Practical demonstration: the skills and procedures used in 3–5 production processes

Documentation

Multimodal (at least two modes delivered at the same time): up to 3 minutes, 6 A4 pages, or equivalent digital media

4.3.5 Instrument-specific standards

Demonstrate	Interpret	Select	Evaluate	Grade
The student response has the following characteristics:				
• proficient demonstration of industry practices, and production skills and procedures when constructing a framing and cladding structure	• insightful and justified interpretation of drawings and technical information when constructing a framing and cladding structure	• discerning selection of industry practices, and production skills and procedures when constructing a framing and cladding structure	• insightful and justified evaluation of production skills, procedures and a framing and cladding structure	A
• efficient demonstration of industry practices, and production skills and procedures when constructing a framing and cladding structure	• detailed and supported interpretation of drawings and technical information when constructing a framing and cladding structure	• thorough selection of industry practices, and production skills and procedures when constructing a framing and cladding structure	• detailed and supported evaluation of production skills, procedures and a framing and cladding structure	B
• demonstration of industry practices, and production skills and procedures when constructing a framing and cladding structure	• interpretation of drawings and technical information when constructing a framing and cladding structure	• selection of industry practices, and production skills and procedures when constructing a framing and cladding structure	• evaluation of production skills, procedures and a framing and cladding structure	C
• rudimentary demonstration of industry practices, and production skills and procedures when constructing a framing and cladding structure.	• narrow and unsupported interpretation of drawings and technical information when constructing a framing and cladding structure.	• inconsistent selection of industry practices, and production skills and procedures when constructing a framing and cladding structure.	• narrow and unsupported evaluation of production skills, procedures and a framing and cladding structure.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E

4.4 Assessment B2: Project — Framing and cladding

Students construct a framing and cladding structure and document the construction process.

4.4.1 Assessment objectives

1. Demonstrate framing and cladding industry practices, and production skills and procedures.
2. Interpret framing and cladding drawings and technical information.
3. Select framing and cladding industry practices, and production skills and procedures.
4. Sequence framing and cladding production processes.
5. Evaluate framing and cladding production skills and procedures, and structures.
6. Adapt framing and cladding construction plans, and production skills and procedures.

4.4.2 Specifications

This task requires students to:

- construct a framing and cladding structure by
  - demonstrating production skills and procedures used in 5–7 production processes
  - select industry practices, production skills and procedures
  - adapting production skills and procedures during construction to meet the requirements in the drawings and technical information
- document the construction process by
  - interpreting drawings and technical information for the construction of a framing and cladding structure
  - deciding on the industry practices, and production skills and procedures required to construct the structure
  - determining the sequence in which the construction processes will be implemented
  - annotating sketches, photographs and/or video footage to capture decision-making
  - reflecting on the quality of the completed structure, industry practices, and production skills and procedures used to construct the structure.

It is recommended that this task is designed so that students can develop a response in approximately 20 hours of class time.

Stimulus specifications

Schools must provide suitably developed drawings and technical information to support students' demonstration of the assessment objectives across the full range of A–E instrument-specific standards.

4.4.3 Conditions

- Students can develop their responses in class time and their own time.
- The construction can be completed individually or in groups. Students must be assessed individually.
- Students have access to materials, tools and equipment as required to complete the assessment.

4.4.4 Response requirements

Framing and cladding structure

Structure: 1 framing and cladding structure constructed using the skills and procedures in 5–7 production processes

Construction process

Multimodal (at least two modes delivered at the same time): up to 5 minutes, 8 A4 pages, or equivalent digital media

4.4.5 Instrument-specific standards

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
The student response has the following characteristics:						
• proficient demonstration of industry practices, and production skills and procedures when constructing a framing and cladding structure	• insightful and justified interpretation of drawings and technical information when constructing a framing and cladding structure	• discerning selection of industry practices, and production skills and procedures when constructing a framing and cladding structure	• strategic sequencing of production processes when constructing a framing and cladding structure	• insightful and justified evaluation of production skills, procedures and a framing and cladding structure	• insightful and justified adaptation of production plans, skills and procedures when constructing a framing and cladding structure	A
• efficient demonstration of industry practices, and production skills and procedures when constructing a framing and cladding structure	• detailed and supported interpretation of drawings and technical information when constructing a framing and cladding structure	• thorough selection of industry practices, and production skills and procedures when constructing a framing and cladding structure	• considered sequencing of production processes when constructing a framing and cladding structure	• detailed and supported evaluation of production skills, procedures and a framing and cladding structure	• detailed and supported adaptation of production plans, skills and procedures when constructing a framing and cladding structure	B
• demonstration of industry practices, and production skills and procedures when constructing a framing and cladding structure	• interpretation of drawings and technical information when constructing a framing and cladding structure	• selection of industry practices, and production skills and procedures when constructing a framing and cladding structure	• sequencing of production processes when constructing a framing and cladding structure	• evaluation of production skills, procedures and a framing and cladding structure	• adaptation of production plans, skills and procedures when constructing a framing and cladding structure	C

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
• rudimentary demonstration of industry practices, and production skills and procedures when constructing a framing and cladding structure.	• narrow and unsupported interpretation of drawings and technical information when constructing a framing and cladding structure.	• inconsistent selection of industry practices, and production skills and procedures when constructing a framing and cladding structure.	• inconsistent sequencing of production skills or procedures when constructing a framing and cladding structure.	• narrow and unsupported evaluation of production skills, procedures and a framing and cladding structure.	• narrow and unsupported adaptation of production plans, skills and procedures when constructing a framing and cladding structure.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E

4.5 Assessment C1: Practical demonstration — Fixing and finishing

Students perform a practical demonstration when constructing a fixing and finishing structure and reflect on industry practices, and production skills and procedures.

4.5.1 Assessment objectives

1. Demonstrate fixing and finishing industry practices, and production skills and procedures.
2. Interpret fixing and finishing drawings and technical information.
3. Select fixing and finishing industry practices, and production skills and procedures.
5. Evaluate fixing and finishing production skills and procedures, and structures.

4.5.2 Specifications

This task requires students to:

- interpret a provided drawing with technical information
- identify the skills required to construct a fixing and finishing structure
- select industry practices, production skills and procedures
- annotate sketches, photographs and/or video footage to capture decision-making
- demonstrate production skills and procedures used in 3–5 production processes
- reflect on the industry practices, and production skills and procedures used to construct the structure.

It is recommended that this task is designed so that students can develop a response in approximately 10 hours of class time.

Stimulus specifications

Schools must provide suitably developed drawings and technical information to support students' demonstration of the assessment objectives across the full range of A–E instrument-specific standards.

4.5.3 Conditions

- Students can develop their responses in class time and their own time.
- This is an individual task.
- Students have access to materials, tools and equipment as required to complete the assessment.
- Structures constructed for Assessment C1 must be separate from the structure component of Assessment C2.

4.5.4 Response requirements

Practical demonstration of fixing and finishing

Practical demonstration: the skills and procedures used in 3–5 production processes

Documentation

Multimodal (at least two modes delivered at the same time): up to 3 minutes, 6 A4 pages, or equivalent digital media

4.5.5 Instrument-specific standards

Demonstrate	Interpret	Select	Evaluate	Grade
The student response has the following characteristics:				
• proficient demonstration of industry practices, and production skills and procedures when constructing a fixing and finishing structure	• insightful and justified interpretation of drawings and technical information when constructing a fixing and finishing structure	• discerning selection of industry practices, and production skills and procedures when constructing a fixing and finishing structure	• insightful and justified evaluation of production skills, procedures and a fixing and finishing structure	A
• efficient demonstration of industry practices, and production skills and procedures when constructing a fixing and finishing structure	• detailed and supported interpretation of drawings and technical information when constructing a fixing and finishing structure	• thorough selection of industry practices, and production skills and procedures when constructing a fixing and finishing structure	• detailed and supported evaluation of production skills, procedures and a fixing and finishing structure	B
• demonstration of industry practices, and production skills and procedures when constructing a fixing and finishing structure	• interpretation of drawings and technical information when constructing a fixing and finishing structure	• selection of industry practices, and production skills and procedures when constructing a fixing and finishing structure	• evaluation of production skills, procedures and a fixing and finishing structure	C
• rudimentary demonstration of industry practices, and production skills and procedures when constructing a fixing and finishing structure.	• narrow and unsupported interpretation of drawings and technical information when constructing a fixing and finishing structure.	• inconsistent selection of industry practices, and production skills and procedures when constructing a fixing and finishing structure.	• narrow and unsupported evaluation of production skills, procedures and a fixing and finishing structure.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E

4.6 Assessment C2: Project — Fixing and finishing

Students construct a fixing and finishing structure and document the construction process.

4.6.1 Assessment objectives

1. Demonstrate fixing and finishing industry practices, and production skills and procedures.
2. Interpret fixing and finishing drawings and technical information.
3. Select fixing and finishing industry practices, and production skills and procedures.
4. Sequence fixing and finishing production processes.
5. Evaluate fixing and finishing production skills and procedures, and structures.
6. Adapt fixing and finishing construction plans, and production skills and procedures.

4.6.2 Specifications

This task requires students to:

- construct a fixing and finishing structure by
  - demonstrating production skills and procedures used in 5–7 production processes
  - select industry practices, production skills and procedures
  - adapting production skills and procedures during construction to meet the requirements in the drawings and technical information
- document the construction process by
  - interpreting drawings and technical information for the construction of a fixing and finishing structure
  - deciding on the industry practices, and production skills and procedures required to construct the structure
  - determining the sequence in which the construction processes will be implemented
  - annotating sketches, photographs and/or video footage to capture decision-making
  - reflecting on the quality of the completed structure, industry practices, and production skills and procedures used to construct the structure.

It is recommended that this task is designed so that students can develop a response in approximately 20 hours of class time.

Stimulus specifications

Schools must provide suitably developed drawings and technical information to support students' demonstration of the assessment objectives across the full range of A–E instrument-specific standards.

4.6.3 Conditions

- Students can develop their responses in class time and their own time.
- The construction can be completed individually or in groups. Students must be assessed individually.
- Students have access to materials, tools and equipment as required to complete the assessment.

4.6.4 Response requirements

Fixing and finishing structure

Structure: 1 fixing and finishing structure constructed using the skills and procedures in 5–7 production processes

Construction process

Multimodal (at least two modes delivered at the same time): up to 5 minutes, 8 A4 pages, or equivalent digital media

4.6.5 Instrument-specific standards

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
The student response has the following characteristics:						
• proficient demonstration of industry practices, and production skills and procedures when constructing a fixing and finishing structure	• insightful and justified interpretation of drawings and technical information when constructing a fixing and finishing structure	• discerning selection of industry practices, and production skills and procedures when constructing a fixing and finishing structure	• strategic sequencing of production processes when constructing a fixing and finishing structure	• insightful and justified evaluation of production skills, procedures and a fixing and finishing structure	• insightful and justified adaptation of production plans, skills and procedures when constructing a fixing and finishing structure	A
• efficient demonstration of industry practices, and production skills and procedures when constructing a fixing and finishing structure	• detailed and supported interpretation of drawings and technical information when constructing a fixing and finishing structure	• thorough selection of industry practices, and production skills and procedures when constructing a fixing and finishing structure	• considered sequencing of production processes when constructing a fixing and finishing structure	• detailed and supported evaluation of production skills, procedures and a fixing and finishing structure	• detailed and supported adaptation of production plans, skills and procedures when constructing a fixing and finishing structure	B
• demonstration of industry practices, and production skills and procedures when constructing a fixing and finishing structure	• interpretation of drawings and technical information when constructing a fixing and finishing structure	• selection of industry practices, and production skills and procedures when constructing a fixing and finishing structure	• sequencing of production processes when constructing a fixing and finishing structure	• evaluation of production skills, procedures and a fixing and finishing structure	• adaptation of production plans, skills and procedures when constructing a fixing and finishing structure	C

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
• rudimentary demonstration of industry practices, and production skills and procedures when constructing a fixing and finishing structure.	• narrow and unsupported interpretation of drawings and technical information when constructing a fixing and finishing structure.	• inconsistent selection of industry practices, and production skills and procedures when constructing a fixing and finishing structure.	• inconsistent sequencing of production skills or procedures when constructing a fixing and finishing structure.	• narrow and unsupported evaluation of production skills, procedures and a fixing and finishing structure.	• narrow and unsupported adaptation of production plans, skills and procedures when constructing a fixing and finishing structure.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E

4.7 Assessment D1: Practical demonstration — Domestic building

Students perform a practical demonstration when constructing a domestic building structure and reflect on industry practices, and production skills and procedures.

4.7.1 Assessment objectives

1. Demonstrate domestic building industry practices, and production skills and procedures.
2. Interpret domestic building drawings and technical information.
3. Select domestic building industry practices, and production skills and procedures.
5. Evaluate domestic building production skills and procedures, and structures.

4.7.2 Specifications

This task requires students to:

- interpret a provided drawing with technical information
- identify the skills required to construct a domestic building structure
- select industry practices, production skills and procedures
- annotate sketches, photographs and/or video footage to capture decision-making
- demonstrate production skills and procedures used in 3–5 production processes
- reflect on the industry practices, and production skills and procedures used to construct the structure.

It is recommended that this task is designed so that students can develop a response in approximately 10 hours of class time.

Stimulus specifications

Schools must provide suitably developed drawings and technical information to support students' demonstration of the assessment objectives across the full range of A–E instrument-specific standards.

4.7.3 Conditions

- Students can develop their responses in class time and their own time.
- Students must be assessed individually.
- Students have access to materials, tools and equipment as required to complete the assessment.
- Structures constructed for Assessment D1 must be separate from the structure component of Assessment D2.

4.7.4 Response requirements

Practical demonstration of domestic building

Practical demonstration: the skills and procedures used in 3–5 production processes

Documentation

Multimodal (at least two modes delivered at the same time): up to 3 minutes, 6 A4 pages, or equivalent digital media.

4.7.5 Instrument-specific standards

Demonstrate	Interpret	Select	Evaluate	Grade
The student response has the following characteristics:				
• proficient demonstration of industry practices, and production skills and procedures when constructing a domestic building structure	• insightful and justified interpretation of drawings and technical information when constructing a domestic building structure	• discerning selection of industry practices, and production skills and procedures when constructing a domestic building structure	• insightful and justified evaluation of production skills, procedures and a domestic building structure	A
• efficient demonstration of industry practices, and production skills and procedures when constructing a domestic building structure	• detailed and supported interpretation of drawings and technical information when constructing a domestic building structure	• thorough selection of industry practices, and production skills and procedures when constructing a domestic building structure	• detailed and supported evaluation of production skills, procedures and a domestic building structure	B
• demonstration of industry practices, and production skills and procedures when constructing a domestic building structure	• interpretation of drawings and technical information when constructing a domestic building structure	• selection of industry practices, and production skills and procedures when constructing a domestic building structure	• evaluation of production skills, procedures and a domestic building structure	C
• rudimentary demonstration of industry practices, and production skills and procedures when constructing a domestic building structure.	• narrow and unsupported interpretation of drawings and technical information when constructing a domestic building structure.	• inconsistent selection of industry practices, and production skills and procedures when constructing a domestic building structure.	• narrow and unsupported evaluation of production skills, procedures and a domestic building structure.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E

4.8 Assessment D2: Project — Domestic building

Students construct a domestic building structure and document the construction process.

4.8.1 Assessment objectives

1. Demonstrate domestic building industry practices, and production skills and procedures.
2. Interpret domestic building drawings and technical information.
3. Select domestic building industry practices, and production skills and procedures.
4. Sequence domestic building production processes.
5. Evaluate domestic building production skills and procedures, and structures.
6. Adapt domestic building construction plans, and production skills and procedures.

4.8.2 Specifications

This task requires students to:

- construct a domestic building structure by
  - demonstrating production skills and procedures used in 5–7 production processes
  - select industry practices, production skills and procedures
  - adapting production skills and procedures during construction to meet the requirements in the drawings and technical information
- document the construction process by
  - interpreting drawings and technical information for the construction of a domestic building structure
  - deciding on the industry practices, and production skills and procedures required to construct the structure
  - determining the sequence in which the construction processes will be implemented
  - annotating sketches, photographs and/or video footage to capture decision-making
  - reflecting on the quality of the completed structure, industry practices, and production skills and procedures used to construct the structure.

It is recommended that this task is designed so that students can develop a response in approximately 20 hours of class time.

Stimulus specifications

Schools must provide suitably developed drawings and technical information to support students' demonstration of the assessment objectives across the full range of A–E instrument-specific standards.

4.8.3 Conditions

- Students can develop their responses in class time and their own time.
- The construction can be completed individually or in groups. Students must be assessed individually.
- Students have access to materials, tools and equipment as required to complete the assessment.

4.8.4 Response requirements

Domestic building structure

Structure: 1 domestic building structure constructed using the skills and procedures in 5–7 production processes

Construction process

Multimodal (at least two modes delivered at the same time): up to 5 minutes, 8 A4 pages, or equivalent digital media

4.8.5 Instrument-specific standards

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
The student response has the following characteristics:						
• proficient demonstration of industry practices, and production skills and procedures when constructing a domestic building structure	• insightful and justified interpretation of drawings and technical information when constructing a domestic building structure	• discerning selection of industry practices, and production skills and procedures when constructing a domestic building structure	• strategic sequencing of production processes when constructing a domestic building structure	• insightful and justified evaluation of production skills, procedures and a domestic building structure	• insightful and justified adaptation of production plans, skills and procedures when constructing a domestic building structure	A
• efficient demonstration of industry practices, and production skills and procedures when constructing a domestic building structure	• detailed and supported interpretation of drawings and technical information when constructing a domestic building structure	• thorough selection of industry practices, and production skills and procedures when constructing a domestic building structure	• considered sequencing of production processes when constructing a domestic building structure	• detailed and supported evaluation of production skills, procedures and a domestic building structure	• detailed and supported adaptation of production plans, skills and procedures when constructing a domestic building structure	B
• demonstration of industry practices, and production skills and procedures when constructing a domestic building structure	• interpretation of drawings and technical information when constructing a domestic building structure	• selection of industry practices, and production skills and procedures when constructing a domestic building structure	• sequencing of production processes when constructing a domestic building structure	• evaluation of production skills, procedures and a domestic building structure	• adaptation of production plans, skills and procedures when constructing a domestic building structure	C

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
• rudimentary demonstration of industry practices, and production skills and procedures when constructing a domestic building structure.	• narrow and unsupported interpretation of drawings and technical information when constructing a domestic building structure.	• inconsistent selection of industry practices, and production skills and procedures when constructing a domestic building structure.	• inconsistent sequencing of production skills or procedures when constructing a domestic building structure.	• narrow and unsupported evaluation of production skills, procedures and a domestic building structure.	• narrow and unsupported adaptation of production plans, skills and procedures when constructing a domestic building structure.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E

4.9 Assessment E1: Practical demonstration — Commercial building

Students perform a practical demonstration when constructing a commercial building structure and reflect on industry practices, and production skills and procedures.

4.9.1 Assessment objectives

1. Demonstrate commercial building industry practices, and production skills and procedures.
2. Interpret commercial building drawings and technical information.
3. Select commercial building industry practices, and production skills and procedures.
5. Evaluate commercial building production skills and procedures, and structures.

4.9.2 Specifications

This task requires students to:

- interpret a provided drawing with technical information
- identify the skills required to construct a commercial building structure
- select industry practices, production skills and procedures
- annotate sketches, photographs and/or video footage to capture decision-making
- demonstrate production skills and procedures used in 3–5 production processes
- reflect on the industry practices, and production skills and procedures used to construct the structure.

It is recommended that this task is designed so that students can develop a response in approximately 10 hours of class time.

Stimulus specifications

Schools must provide suitably developed drawings and technical information to support students' demonstration of the assessment objectives across the full range of A–E instrument-specific standards.

4.9.3 Conditions

- Students can develop their responses in class time and their own time.
- Students must be assessed individually.
- Students have access to materials, tools and equipment as required to complete the assessment.
- Structures constructed for Assessment E1 must be separate from the structure component of Assessment E2.

4.9.4 Response requirements

Practical demonstration of commercial building

Practical demonstration: the skills and procedures used in 3–5 production processes

Documentation

Multimodal (at least two modes delivered at the same time): up to 3 minutes, 6 A4 pages, or equivalent digital media

4.9.5 Instrument-specific standards

Demonstrate	Interpret	Select	Evaluate	Grade
The student response has the following characteristics:				
• proficient demonstration of industry practices, and production skills and procedures when constructing a commercial building structure	• insightful and justified interpretation of drawings and technical information when constructing a commercial building structure	• discerning selection of industry practices, and production skills and procedures when constructing a commercial building structure	• insightful and justified evaluation of production skills, procedures and a commercial building structure	A
• efficient demonstration of industry practices, and production skills and procedures when constructing a commercial building structure	• detailed and supported interpretation of drawings and technical information when constructing a commercial building structure	• thorough selection of industry practices, and production skills and procedures when constructing a commercial building structure	• detailed and supported evaluation of production skills, procedures and a commercial building structure	B
• demonstration of industry practices, and production skills and procedures when constructing a commercial building structure	• interpretation of drawings and technical information when constructing a commercial building structure	• selection of industry practices, and production skills and procedures when constructing a commercial building structure	• evaluation of production skills, procedures and a commercial building structure	C
• rudimentary demonstration of industry practices, and production skills and procedures when constructing a commercial building structure.	• narrow and unsupported interpretation of drawings and technical information when constructing a commercial building structure.	• inconsistent selection of industry practices, and production skills and procedures when constructing a commercial building structure.	• narrow and unsupported evaluation of production skills, procedures and a commercial building structure.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E

4.10 Assessment E2: Project — Commercial building

Students construct a commercial building structure and document the construction process.

4.10.1 Assessment objectives

1. Demonstrate commercial building industry practices, and production skills and procedures.
2. Interpret commercial building drawings and technical information.
3. Select commercial building industry practices, and production skills and procedures.
4. Sequence of commercial building production processes.
5. Evaluate commercial building production skills and procedures, and structures.
6. Adapt commercial building construction plans, and production skills and procedures.

4.10.2 Specifications

This task requires students to:

- construct a commercial building structure by
  - demonstrating production skills and procedures used in 5–7 production processes
  - select industry practices, production skills and procedures
  - adapting production skills and procedures during construction to meet the requirements in the drawings and technical information
- document the construction process by
  - interpreting drawings and technical information for the construction of a commercial building structure
  - deciding on the industry practices, and construction processes required to construct the structure
  - determining the sequence in which the construction processes will be implemented
  - annotating sketches, photographs and/or video footage to capture decision-making
  - reflecting on the quality of the completed structure, industry practices, and production skills and procedures used to construct the structure.

It is recommended that this task is designed so that students can develop a response in approximately 20 hours of class time.

Stimulus specifications

Schools must provide suitably developed drawings and technical information to support students' demonstration of the assessment objectives across the full range of A–E instrument-specific standards.

4.10.3 Conditions

- Students can develop their responses in class time and their own time.
- The construction can be completed individually or in groups. Students must be assessed individually.
- Students have access to materials, tools and equipment as required to complete the assessment.

4.10.4 Response requirements

Commercial building structure

Structure: 1 commercial building structure constructed using the skills and procedures in 5–7 production processes

Construction process

Multimodal (at least two modes delivered at the same time): up to 5 minutes, 8 A4 pages, or equivalent digital media

4.10.5 Instrument-specific standards

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
The student response has the following characteristics:						
• proficient demonstration of industry practices, and production skills and procedures when constructing a commercial building structure	• insightful and justified interpretation of drawings and technical information when constructing a commercial building structure	• discerning selection of industry practices, and production skills and procedures when constructing a commercial building structure	• strategic sequencing of production processes when constructing a commercial building structure	• insightful and justified evaluation of production skills, procedures and a commercial building structure	• insightful and justified adaptation of production plans, skills and procedures when constructing a commercial building structure	A
• efficient demonstration of industry practices, and production skills and procedures when constructing a commercial building structure	• detailed and supported interpretation of drawings and technical information when constructing a commercial building structure	• thorough selection of industry practices, and production skills and procedures when constructing a commercial building structure	• considered sequencing of production processes when constructing a commercial building structure	• detailed and supported evaluation of production skills, procedures and a commercial building structure	• detailed and supported adaptation of production plans, skills and procedures when constructing a commercial building structure	B
• demonstration of industry practices, and production skills and procedures when constructing a commercial building structure	• interpretation of drawings and technical information when constructing a commercial building structure	• selection of industry practices, and production skills and procedures when constructing a commercial building structure	• sequencing of production processes when constructing a commercial building structure	• evaluation of production skills, procedures and a commercial building structure	• adaptation of production plans, skills and procedures when constructing a commercial building structure	C

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
• rudimentary demonstration of industry practices, and production skills and procedures when constructing a commercial building structure.	• narrow and unsupported interpretation of drawings and technical information when constructing a commercial building structure.	• inconsistent selection of industry practices, and production skills and procedures when constructing a commercial building structure.	• inconsistent sequencing of production skills or procedures when constructing a commercial building structure.	• narrow and unsupported evaluation of production skills, procedures and a commercial building structure.	• narrow and unsupported adaptation of production plans, skills and procedures when constructing a commercial building structure.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E

4.11 Assessment F1: Practical demonstration — Civil construction

Students perform a practical demonstration when constructing a civil construction structure and reflect on industry practices, and production skills and procedures.

4.11.1 Assessment objectives

1. Demonstrate civil construction industry practices, and production skills and procedures.
2. Interpret civil construction drawings and technical information.
3. Select civil construction industry practices, and production skills and procedures.
5. Evaluate civil construction production skills and procedures, and structures.

4.11.2 Specifications

This task requires students to:

- interpret a provided drawing with technical information
- identify the skills required to construct a civil construction structure
- select industry practices, production skills and procedures
- annotate sketches, photographs and/or video footage to capture decision-making
- demonstrate production skills and procedures used in 3–5 production processes
- reflect on the industry practices, and production skills and procedures used to construct the structure.

It is recommended that this task is designed so that students can develop a response in approximately 10 hours of class time.

Stimulus specifications

Schools must provide suitably developed drawings and technical information to support students' demonstration of the assessment objectives across the full range of A–E instrument-specific standards.

4.11.3 Conditions

- Students can develop their responses in class time and their own time.
- Students must be assessed individually.
- Students have access to materials, tools and equipment as required to complete the assessment.
- Structures constructed for Assessment F1 must be separate from the structure component of Assessment F2.

4.11.4 Response requirements

Practical demonstration of civil construction

Practical demonstration: the skills and procedures used in 3–5 production processes

Documentation

Multimodal (at least two modes delivered at the same time): up to 3 minutes, 6 A4 pages, or equivalent digital media

4.11.5 Instrument-specific standards

Demonstrate	Interpret	Select	Evaluate	Grade
The student response has the following characteristics:				
• proficient demonstration of industry practices, and production skills and procedures when constructing a civil construction structure	• insightful and justified interpretation of drawings and technical information when constructing a civil construction structure	• discerning selection of industry practices, and production skills and procedures when constructing a civil construction structure	• insightful and justified evaluation of production skills, procedures and a civil construction structure	A
• efficient demonstration of industry practices, and production skills and procedures when constructing a civil construction structure	• detailed and supported interpretation of drawings and technical information when constructing a civil construction structure	• thorough selection of industry practices, and production skills and procedures when constructing a civil construction structure	• detailed and supported evaluation of production skills, procedures and a civil construction structure	B
• demonstration of industry practices, and production skills and procedures when constructing a civil construction structure	• interpretation of drawings and technical information when constructing a civil construction structure	• selection of industry practices, and production skills and procedures when constructing a civil construction structure	• evaluation of production skills, procedures and a civil construction structure	C
• rudimentary demonstration of industry practices, and production skills and procedures when constructing a civil construction structure.	• narrow and unsupported interpretation of drawings and technical information when constructing a civil construction structure.	• inconsistent selection of industry practices, and production skills and procedures when constructing a civil construction structure.	• narrow and unsupported evaluation of production skills, procedures and a civil construction structure.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E

4.12 Assessment F2: Project — Civil construction

Students construct a civil construction structure and document the construction process.

4.12.1 Assessment objectives

1. Demonstrate civil construction industry practices, and production skills and procedures.
2. Interpret civil construction drawings and technical information.
3. Select civil construction industry practices, and production skills and procedures.
4. Sequence civil production processes.
5. Evaluate civil production skills and procedures, and structures.
6. Adapt civil construction plans, and production skills and procedures.

4.12.2 Specifications

This task requires students to:

- construct a civil construction structure by
  - demonstrating production skills and procedures used in 5–7 production processes
  - select industry practices, production skills and procedures
  - adapting production skills and procedures during construction to meet the requirements in the drawings and technical information
- document the construction process by
  - interpreting drawings and technical information for the construction of a civil construction structure
  - deciding on the industry practices, and production skills and procedures required to construct the structure
  - determining the sequence in which the construction processes will be implemented
  - annotating sketches, photographs and/or video footage to capture decision-making
  - reflecting on the quality of the completed structure, industry practices, and production skills and procedures used to construct a structure.

It is recommended that this task is designed so that students can develop a response in approximately 20 hours of class time.

Stimulus specifications

Schools must provide suitably developed drawings and technical information to support students' demonstration of the assessment objectives across the full range of A–E instrument-specific standards.

4.12.3 Conditions

- Students can develop their responses in class time and their own time.
- The construction can be completed individually or in groups. Students must be assessed individually.
- Students have access to materials, tools and equipment as required to complete the assessment.

4.12.4 Response requirements

Civil construction structure

Structure: 1 civil construction structure constructed using the skills and procedures in 5–7 production processes

Construction process

Multimodal (at least two modes delivered at the same time): up to 5 minutes, 8 A4 pages, or equivalent digital media

4.12.5 Instrument-specific standards

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
The student response has the following characteristics:						
• proficient demonstration of industry practices, and production skills and procedures when constructing a civil construction structure	• insightful and justified interpretation of drawings and technical information when constructing a civil construction structure	• discerning selection of industry practices, and production skills and procedures when constructing a civil construction structure	• strategic sequencing of production processes when constructing a civil construction structure	• insightful and justified evaluation of production skills, procedures and a civil construction structure	• insightful and justified adaptation of production plans, skills and procedures when constructing a civil construction structure	A
• efficient demonstration of industry practices, and production skills and procedures when constructing a civil construction structure	• detailed and supported interpretation of drawings and technical information when constructing a civil construction structure	• thorough selection of industry practices, and production skills and procedures when constructing a civil construction structure	• considered sequencing of production processes when constructing a civil construction structure	• detailed and supported evaluation of production skills, procedures and a civil construction structure	• detailed and supported adaptation of production plans, skills and procedures when constructing a civil construction structure	B
• demonstration of industry practices, and production skills and procedures when constructing a civil construction structure	• interpretation of drawings and technical information when constructing a civil construction structure	• selection of industry practices, and production skills and procedures when constructing a civil construction structure	• sequencing of production processes when constructing a civil construction structure	• evaluation of production skills, procedures and a civil construction structure	• adaptation of production plans, skills and procedures when constructing a civil construction structure	C

Demonstrate	Interpret	Select	Sequence	Evaluate	Adapt	Grade
• rudimentary demonstration of industry practices, and production skills and procedures when constructing a civil construction structure.	• narrow and unsupported interpretation of drawings and technical information when constructing a civil construction structure.	• inconsistent selection of industry practices, and production skills and procedures when constructing a civil construction structure.	• inconsistent sequencing of production skills or procedures when constructing a civil construction structure.	• narrow and unsupported evaluation of production skills, procedures and a civil construction structure.	• narrow and unsupported adaptation of production plans, skills and procedures when constructing a civil construction structure.	D
The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	The student response does not match any of the descriptors above.	E

5 Glossary

The syllabus glossary is available at www.qcaa.qld.edu.au/downloads/senior-qce/common/snr_glossary_cognitive_verbs.pdf.

6 References

Marzano, RJ & Kendall, JS 2007, *The New Taxonomy of Educational Objectives*, 2nd edition, Corwin Press, USA.

——2008, Designing and Assessing Educational Objectives: Applying the new taxonomy, Corwin Press, USA.

7 Version history

Version	Date of change	Update
1.1	August 2023	Released for implementation with minor updates

ISBN
Electronic version: 978-1-74378-257-6

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