

Engineering Skills 2019

Study plan

Section 1: School statement

School:	Queensland Curriculum and Assessment Authority
Subject code:	6417
Combined class:	No
School contact:	SEO
Phone:	(07) 3864 0375
Email:	seo@qcaa.qld.edu.au

Section 2: Course and assessment overview

Engineering Skills is a four-unit course of study.

Units 1 and 2 of the course are designed to allow students to begin their engagement with the course content, i.e. the knowledge, understandings and skills of the subject. Course content, learning experiences and assessment increase in complexity across the four units as students develop greater independence as learners.

Units 3 and 4 consolidate student learning.

QCAA approval

QCAA officer:

Date:

Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
2	<p>Module 2: Communication and teamwork in engineering enterprises</p> <p>This module introduces students to the industry practices associated with tradespeople, who work in teams using production skills and procedures to create quality products from specifications. Students build on prior learning of industry practices and production processes used in the creation of quality products for the engineering industry.</p>	55	<ul style="list-style-type: none"> Fitting and machining Sheet metal working Welding and fabrication 	<p>Industry practices</p> <ul style="list-style-type: none"> C1.1 Manufacturing enterprises C1.2 Workplace health and safety C1.3 Personal and interpersonal skills C1.4 Product quality <p>Production processes</p> <ul style="list-style-type: none"> C2.1 Specifications C2.2 Tools C2.3 Materials 	3	<p>Practical demonstration</p> <p>Manufacture a basic sheet metal box and lid from specifications. (Visual evidence is collected through annotated photographs or teacher observations annotated on the instrument-specific standards.) Individual response.</p>	<ul style="list-style-type: none"> Knowing and understanding Analysing and applying Producing and evaluating
					4	<p>Project</p> <p>In a team, manufacture a G-clamp from specifications using a simple production line.</p> <ul style="list-style-type: none"> Multimodal component — non-presentation Individual digital portfolio (photographic production journal including sketches and annotations). Maximum: 6 A4 pages (or equivalent) Product component G-clamp. Completed in small groups with results awarded individually. 	<ul style="list-style-type: none"> Knowing and understanding Analysing and applying Producing and evaluating
3	<p>Module 3: Welding and fabrication enterprise</p> <p>This module builds on prior learning of industry practices and production processes used in the safe creation of quality products. Products are created at a suitable quality using production processes that recognise industry costs, price, competition and customer expectations of value.</p>	55	<ul style="list-style-type: none"> Sheet metal working Welding and fabrication 	<p>Industry practices</p> <ul style="list-style-type: none"> C1.1 Manufacturing enterprises C1.2 Workplace health and safety C1.3 Personal and interpersonal skills C1.4 Product quality <p>Production processes</p> <ul style="list-style-type: none"> C2.1 Specifications C2.2 Tools C2.3 Materials 	5	<p>Project</p> <p>Manufacture braziers for clients from predefined detailed specifications.</p> <ul style="list-style-type: none"> Multimodal component — non-presentation Individual digital portfolio (photographic production journal including sketches and annotations). Maximum: 8 A4 pages (or equivalent) Product component Braziers with sheet metal ash trays. 	<ul style="list-style-type: none"> Knowing and understanding Analysing and applying Producing and evaluating
					6	<p>Practical demonstration</p> <p>Manufacture a wall bracket from specifications. (Visual evidence is collected through annotated photographs or teacher observations annotated on the instrument-specific standards.)</p>	<ul style="list-style-type: none"> Knowing and understanding Analysing and applying Producing and evaluating

Unit	Module number and description	Time in hours	Electives	Core concepts and ideas	Assess no.	Assessment technique, description and conditions	Dimensions
4	<p>Module 4: Working cooperatively in engineering workplaces</p> <p>This module builds on prior learning of industry practices and production processes used in the creation of quality products in the manufacturing industry. Engineering enterprises require workers to be effective team members focussed on the safe and efficient creation of quality products. This often takes the form of batch production processes.</p>	55	<ul style="list-style-type: none"> Fitting and machining Sheet metal working Welding and fabrication 	<p>Industry practices</p> <ul style="list-style-type: none"> C1.1 Manufacturing enterprises C1.2 Workplace health and safety C1.3 Personal and interpersonal skills C1.4 Product quality <p>Production processes</p> <ul style="list-style-type: none"> C2.1 Specifications C2.2 Tools C2.3 Materials 	7	<p>Project</p> <p>In teams, manufacture waterproof tool boxes to predefined specifications.</p> <ul style="list-style-type: none"> Product component Waterproof tool box. Scope of work assigned to individual students. Multimodal component — non-presentation Individual digital portfolio (photographic journal including sketches and annotations). Maximum: 8 A4 pages (or equivalent) 	<ul style="list-style-type: none"> Knowing and understanding Analysing and applying Producing and evaluating
					8	<p>Practical demonstration</p> <p>Manufacture a set of two hinges using specifications. (Visual evidence is collected through annotated photographs or teacher observations annotated on the instrument-specific standards.) Individual response.</p>	<ul style="list-style-type: none"> Knowing and understanding Analysing and applying Producing and evaluating

Engineering Skills 2019

Teacher:

Student name:

Class:

Year:

Unit	Module of work	Assessment Instrument No.	Assessment Instrument	Formative or Summative	Knowing and understanding	Analysing and applying	Producing and evaluating
1	Module one The engineering industry — Introduction to safety, production processes and product quality	1	Practical demonstration	F			
		2	Project	F			
2	Module two Communication and teamwork in engineering enterprises	3	Practical demonstration	F			
		4	Project	F			
Interim Standards							
Interim Result							
3	Module three Welding and fabrication enterprise	5	Project	S			
		6	Practical demonstration	S			
4	Module four Working cooperatively in engineering workplaces	7	Project	S			
		8	Practical demonstration	S			
Exit Standards							
Exit Result							