

Industrial Graphics Skills 2019 v1.0

Applied Senior Syllabus

MERIDAN STATE COLLEGE - GSK

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www.qcaa.qld.edu.au/senior/senior-subjects

1 Course overview

1.1 Introduction

1.1.1 Rationale

Technology has been an integral part of society for as long as humans have had the desire to create products to improve their quality of life. In an increasingly technological and complex world, it is important to develop the knowledge, understanding and skills associated with the traditional and contemporary tools and materials used by Australian manufacturing industries to create products.

Manufacturing industries transform raw materials into products wanted by society. This adds value for both enterprises and consumers. Australia, as one of the most developed economies in the world, has strong manufacturing industries that provide employment for many people.

The Industrial Graphics Skills subject focuses on the underpinning industry practices and drafting processes required to produce the technical drawings used in a variety of industries, including building and construction, engineering and furnishing. It provides a unique opportunity for students to experience the challenge and personal satisfaction of producing technical drawings and models while developing beneficial vocational and life skills.

The subject includes two core topics — ‘Industry practices’ and ‘Drafting processes’. Industry practices are used by manufacturing enterprises to manage the manufacturing of products from raw materials. Drafting processes combine drawing skills and procedures with knowledge of materials and tools to produce industry-specific technical drawings. Students explore the knowledge, understanding and skills of the core topics through selected industry-based electives in response to local needs, available resources and teacher expertise.

Through both individual and collaborative learning experiences, students learn to meet customer expectations of product quality at a specific price and time. The majority of learning is done through drafting and modelling tasks that relate to business and industry, and that promote adaptable, competent, self-motivated and safe individuals who can work with colleagues to solve problems and complete tasks.

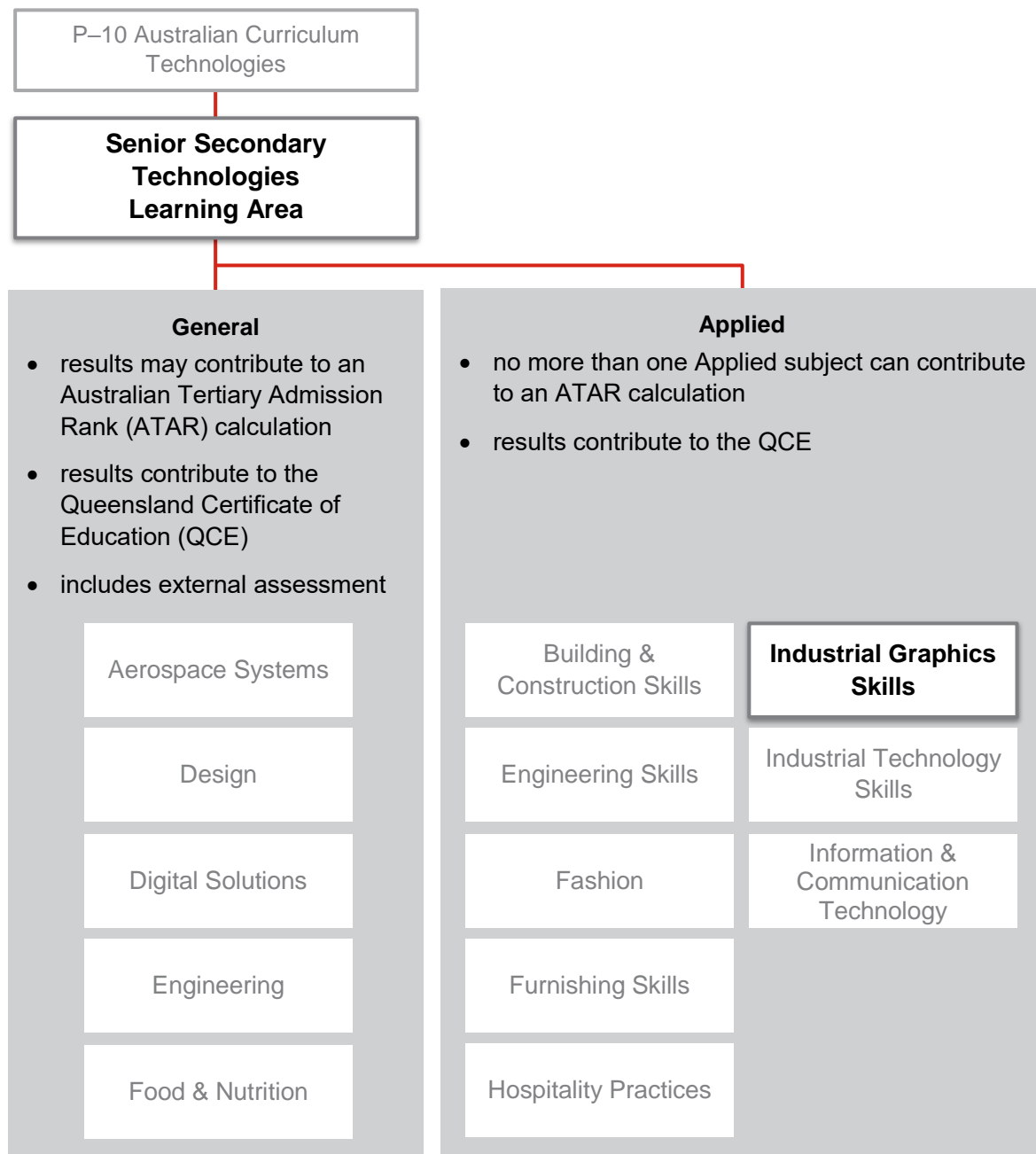
By doing drafting and modelling tasks, students develop transferrable skills relevant to a range of industry-based electives and future employment opportunities. They understand industry practices, interpret technical drawings, demonstrate and apply safe practical modelling procedures with tools and materials, communicate using oral and written modes, organise and produce technical drawings and evaluate drawings using specifications.

Pathways

A course of study in Industrial Graphics Skills can establish a basis for further education and employment in a range of roles and trades in the manufacturing industries. With additional training and experience, potential employment opportunities may be found in drafting roles such as architectural drafter, estimator, mechanical drafter, electrical drafter, structural drafter, civil drafter and survey drafter.

1.1.2 Learning area structure

Figure 1: Summary of subjects offered in the Technologies learning area



3 Assessment

3.1 Assessment — general information

Assessment is an integral part of the teaching and learning process. It is the purposeful, systematic and ongoing collection of information about student learning outlined in the syllabus.

The major purposes of assessment are to:

- promote, assist and improve learning
- inform programs of teaching and learning
- advise students about their own progress to help them achieve as well as they are able
- give information to parents, carers and teachers about the progress and achievements of individual students to help them achieve as well as they are able
- provide comparable exit results in each Applied syllabus which may contribute credit towards a Queensland Certificate of Education (QCE); and may contribute towards Australian Tertiary Admission Rank (ATAR) calculations
- provide information about how well groups of students are achieving for school authorities and the State Minister responsible for Education.

Student responses to assessment opportunities provide a collection of evidence on which judgments about the quality of student learning are made. The quality of student responses is judged against the standards described in the syllabus.

In Applied syllabuses assessment is standards-based. The standards are described for each objective in each of the three dimensions. The standards describe the quality and characteristics of student work across five levels from A to E.

3.1.1 Planning an assessment program

When planning an assessment program over a developmental four-unit course, schools should:

- administer assessment instruments at suitable intervals throughout the course
- provide students with opportunities in Units 1 and 2 to become familiar with the assessment techniques that will be used in Units 3 and 4
- assess all of the dimensions in each unit
- assess each objective at least twice by midway through the course (end of Unit 2) and again by the end of the course (end of Unit 4)
- assess only what the students have had the opportunity to learn, as prescribed in the syllabus and outlined in the study plan.

For a student who studies four units, only assessment evidence from Units 3 and 4 contributes towards decisions at exit.

Further guidance can be found in the QCE and QCIA policy and procedures handbook.

3.1.2 Authentication of student work

Schools and teachers must have strategies in place for ensuring that work submitted for internal summative assessment is the student's own.

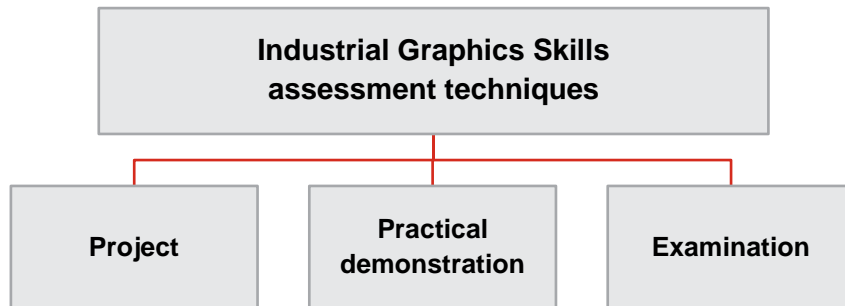
Judgments about student achievement are based on evidence of the demonstration of student knowledge, understanding and skills. Schools ensure responses are validly each student's own work.

Guidance about authentication strategies which includes guidance for drafting, scaffolding and teacher feedback can be found in the QCE and QCIA policy and procedures handbook.

3.2 Assessment techniques

The assessment techniques relevant to this syllabus are identified in the figure below and described in detail within the individual assessment techniques.

Figure 3: Industrial Graphics Skills assessment techniques



Schools design assessment instruments from the assessment techniques relevant to this syllabus. The assessment instruments students respond to in Units 1 and 2 should support those techniques included in Units 3 and 4.

For each assessment instrument, schools develop an instrument-specific standards matrix by selecting the syllabus standards descriptors relevant to the task and the dimension/s being assessed (see Standards matrix).

The matrix is used as a tool for making judgments about the quality of students' responses to the instrument and is developed using the syllabus standards descriptors. Assessment is designed to allow students to demonstrate the range of standards (see Determining an exit result). Teachers give students an instrument-specific standards matrix for each assessment instrument.

Evidence

Evidence includes the student's responses to assessment instruments and the teacher's annotated instrument-specific standards matrixes. Evidence may be direct or indirect. Examples of direct evidence include student responses to assessment instruments or digital recordings of student performances. Examples of indirect evidence include student notes, teacher observation recording sheets or photographic evidence of the process.

Further guidance can be found in the QCE and QCIA policy and procedures handbook.

Conditions of assessment

Over a four-unit course of study, students are required to complete assessment under a range of conditions (see Planning an assessment program).

Conditions may vary according to assessment. They should be stated clearly on assessment instruments and reflect the conditions stated for each assessment technique.

Where support materials or particular equipment, tools or technologies are used under supervised conditions, schools must ensure that the purpose of supervised conditions (i.e. to authenticate student work) is maintained.

Assessment of group work

When students undertake assessment in a group or team, instruments must be designed so that teachers can validly assess the work of individual students and not apply a judgment of the group product and processes to all individuals.

Additional Requirements

Study Requirements	Special Requirements
<p>Students are expected to complete three lessons face to face, as well as attend tutorial time to access specialist equipment as and when required. Students will need to ensure they are following teacher advice regarding timelines and additional attendance at tutorials to complete set work.</p>	<p>Students are required to have a connected device to participate in this subject.</p> <p>Course will require students to access CAD software. The following specifications are recommended:</p> <ul style="list-style-type: none">- Operating System: 64-bit OS.- Processor: 2.5 GHz- Memory: 8 GB- Disk space: 7.0 GB- Display: 1920 x 1080 resolution with True Colour.