

11 GSK: Intro to Industrial Drafting processes.

Achievement Standard: 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.

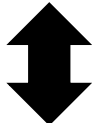
Through both individual and collaborative learning experiences, students learn to meet customer expectations of product quality at a specific price and time. The majority of learning is done through drafting and modelling tasks that relate to business and industry, and that promote adaptable, competent, 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.

Industry practices are used to effectively and efficiently manage manufacturing enterprises, workplace health and safety, employee personal and interpersonal skills and customer expectations to safely change raw materials into products wanted by society and which add value for both enterprises and consumers.

Drafting processes combine drawing skills and procedures with knowledge of materials, tools and production procedures to produce industry-specific technical drawings. The drafting of technical drawings is an integral part of manufacturing industry production processes.

COMPREHENSION SKILL FOCUS:
Determine importance – multimodal component.



THINKING:
Sequence, draw, explain and evaluate

WRITTEN / SPOKEN / MULTI-MODAL TEXTS
Power point and use of Scaffolded evaluation

HIGHLY VALUED LANGUAGE FEATURE FOCUS:
Evaluative Language

DRAWING PRACTICES

Introduction to Industrial drafting processes

This module introduces students to the various drafting components required by the various industries mechanical and engineering. The unit covers industry practices to create technical drawings (to industry specifications) that facilitate the manufacture of quality products

Key take home skills;

- Have a clear understanding of drawing requirements
- Demonstrate basic practical skills such as the use of relevant tools
- Perform a sequence of routine tasks given clear directions
- Timeline for project completion
- Use computer-aided drafting (CAD) software to generate technical drawings
- Follow a CAD tutorial to develop a 3D digital model
- Demonstrate file-management
- Measuring techniques
- dimensioning

Assessment:

Examination

Students to respond to questions, scenarios and problems based on the unit. 60.0–90.0 minutes • Short response test
Students respond to unseen questions and scenarios under supervised conditions.50–150 words per item

Project

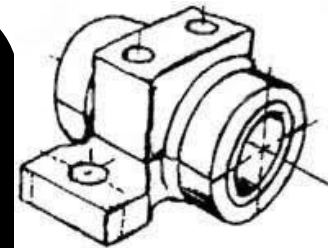
Students sketch and measure the features of towing equipment and develop a set of working drawings and produce a replacement part.

3D printed Replacement Handle and

Working Drawings

- Multimodal component non presentation

Individual annotated notes in a log book containing daily entries describing tasks completed and the development of their drawings to the various industry processes, practices and standards. Maximum: 6 A4 pages (or equivalent)



Standard Elaborations - Proficiency Scale

- construction of models from drawings
- creation of technical drawings from industry requirements
- evaluation of practices, processes and drawings, and recommendations made

This module introduces students to the various drafting components required by the various industries of building and construction. The unit covers industry practices to create technical drawings (to industry specifications) that facilitate the manufacture of quality products.

Industry Practices are used to effectively and efficiently manage manufacturing enterprises, workplace health and safety, employee personal and interpersonal skills and customer expectations to safely change raw materials into products wanted by society and which add value for both enterprises and consumers.

- Manufacturing Enterprises
- Work place Health and Safety
- Personal and interpersonal skills
- Product Quality

Drafting Processes:

- Drawing skills and procedures
- Specifications