

Overview

Nationalization Diploma: Structural Steelwork Detailing Qualification will provide learners with the standards required to satisfy the challenges of participating effectively in the steel construction industry as a structural steel detailing specialist. Skills covered in this qualification relates to the production of **structural steel detailing drawings** for fabrication and erection of steel structures as well as the understanding of the steel construction industry and how to operate within the legislative, safety and quality systems which govern this industry.

This qualification has been developed to assist with standardisation across the steel construction industry. This will allow a person to register as a structural steel detail draughtsman and lay a foundation for future career advancement to **supervisory** and management qualifications within the sector. For those who have been in the workplace for a long time, this qualification can be used in the recognition of prior learning process to assess and recognise workplace skills acquired.

Features & Benefits

1. The qualification will also give you a recognized CAD software course, accepted by industry at the value of thousands of Rands, a critical consideration for any employer when considering new draughtsman.



2. Get exposure to guest lecturers from relevant external companies and organizations both on campus and online.
3. Get job ready with our Workplace Preparation module where you will learn how to compile your own personal work portfolio, enhance your CV, handle yourselves in a design job interview, how to be resourceful in job hunting and managing your online reputation.
4. Students get free access to the MakersLab with **3D Printing, CNC Machining and Lazer Cutting** facilities.



5. Get a free **Office 365 Education A1 license**, valid for the duration of your studies.



6. Access to our online recruitment portal, exclusively available to **AIE graduates**. Visit www.recruitgraduates.co.za for more.



What you get

On completion the student will earn:

- **National Diploma:** Structural Steel Detailing, NQF Level 5, SAQA ID: 48636, 257 Credits
- **International Certificate:** AutoCAD & Advanced Steel

Admission Requirements

- Grade 12 with full Mathematics
- NQF 4 Drawing Office Practice OR
- N4/5 Multi Drawing Office practice OR
- Engineering National Certificate N3
- **No matric?** You still have options. Do our Engineering National Certificate N3

Duration

Full Time

- 24 months, 257 credits (+/- 12hrs / week)
- Learning is blended (combination of online & contact time)
- All class based credits are achieved via your study duration at the academy, studio time and project based assignments.

**Sessions will be grouped together to lower cost of traveling, however, in some cases classes may not follow this convention and schedules are subject to change.*

Part Time

- 24 months, 257 credits (1 x 2hrs / Week @ 18:00 & 3hrs every 2nd Saturday @ 08:00)
- Learning is blended (combination of online & contact time)

Online

- 24 Months, 257 credits (1 x 2hrs / Week @ 18:00)
- Credits are obtained through a combination of live virtual classes, pre-recorded video lectures and project-based tasks..

Mode of Delivery

- Full Time
- Part Time
- Online / Distance Learning

Regulatory Info

AIE has been granted provisional registration as a private college in terms of Section 31(3) of the CET Act and Regulation 12(4), with registration number 2018/FE07/003. This programme is accredited, and quality assured by the Construction SETA (CETA), accreditation number #ACC/17/07/00016. The AIE is registered with the DHET as a Private TVET College, which means we are only offer occupational qualifications that are accredited by Umalusi, the (QCTO) Quality Council for Trades and Occupations, any of the SETAs and other Regulatory Bodies that have had their qualifications accredited by the QCTO.

Theory Modules:

- **Module 1:** Use drawing equipment and apply drawing techniques to produce detail drawings of basic structural steelwork assemblies and arrangement drawings. Demonstrate understanding of regulations codes and drawing office practices for structural steel detailing. Prepare structural steelwork detail drawings for the fabrication of assemblies for light industrial structures low rise commercial buildings and warehouse. Prepare structural steelwork detail drawings for the fabrication of assemblies for ancillary steelwork for buildings. Demonstrate understanding of the mechanical properties of bolts set screws and welds and their application in the design of connections for structural steelwork assemblies.
- **Module 2:** Demonstrate an understanding of strength of materials in relation to steel structures. Demonstrate understanding of basic theory of structures and structural behaviour relative to steel structures. Use advanced 3D computer modeling techniques in the production of detail drawings and other data leading to the fabrication of commercial and industrial structural steel projects. Demonstrate an understanding of basic contract planning functions workshop and site procedures for structural steel projects. Prepare structural steelwork detail drawings for the fabrication of assemblies for multi-storey buildings.
- **Module 3:** Design a range of load bearing elements for steel structures. Prepare structure steelwork detail drawings for the fabrication of assemblies for heavy industrial buildings. Engage in sustained oral communication and evaluate spoken texts. Demonstrate an understanding of framing of structural steel buildings and structural behaviour. Design structural steelwork connections. Prepare structural steelwork detail drawings for the fabrication of assemblies for process plants.
- **Module 4:** Read analyse and respond to a variety of texts. Use language and communication in occupational learning programmes. Represent analyse and calculate shape and motion in 2- and 3- Dimensional space in different contexts. Demonstrate an understanding of advanced theory of structures and structural behaviour relative to steel structures. Compile estimate and quotations for structural steelwork. Control quality in the fabrication assembly and erection of structural steelwork assemblies.

Software Modules:

- AutoCAD Essentials
- Autodesk Advanced Steel
- Prokon

On Exit: Workplace Preparation Module

You will only attend the WPM on your exit year. The Workplace Preparation Module is designed for students to acquire the requisite skills and attributes to help you integrate into the world of work more easily. Move from the world of education to the world of work with essential and/or specialized skills that will improve your employment (or self-employment) prospects. This program is done for all students and consist of:

Modules covered:

- Preparing for an interview;
- Conduct and Behaviour During an Interview;
- Communication Skills;
- Understanding Legislation;
- Preparing the CV that Everybody Wants to See;
- Using Social Media;
- Starting the Job seeking Journey
- Registering on our recruitment portal

Career Options

- Structural Steel Detailer
- Structural Draughtsperson
- Structural Engineer
- Senior Structural Engineer
- Structural Design Engineer
- Project Manager
- Estimator

Study Kit

Your study kit is included in your fees and will contain:



- Free WiFi (Unlimited data, On Campus only).
- **Autodesk student licenses** valid for three years.
- USB 64GB with all required software applications.
- Hardcopy of Red, Yellow and Blue steel books used in the industry
- Stationary including:
 - AIE Notepad
 - Pencil Case
 - Ruler and Pen
- Electronic Study Guides
- Orientation kit including: Student Card, Welcome Letter, Getting Started Guide.
- Access to myAIE student portal and student support team via phone, email and tickets.

*Please note that Autodesk Licenses provided are for Windows OS only and does not extend to Mac.

Important Notes

Price for this program only includes the course fees of 1st Year.