National Diploma: Structural Steelwork Detailing NQF5 SAQA ID 48636

AIE School of Draughting and Technical Design

Overview

The **National Diploma: Structural Steelwork Detailing NQF5** 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.

Duration:

Full Time:

- **24 months, 257 credits** (10 Sessions/Week, 2:00 hours each, +- 2 ½ day/week, class times are between 08:30 & 16:00)
- All credits are achieved via your study duration at the academy.

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

Online & Part Time

- **Part Time = 24 months, 257 credits** (2 x evening classes, 18:00 to 21:00, Mon & Wed OR Tues & Thur)
- **Online = 24 months, 257 credits** (Online live classes, once/week, 17:00 - 18:00, day to be determined by timetable)
- Credits are obtained through a combination of live virtual classes, pre-recorded video lectures and project-based tasks.

Features and Benefits

1. This qualification will consist of 9 theory modules with practical and project-based assess ments to provide practical application of theoretical knowledge.
2. The qualification will also integrate up to five internationally recognized CAD software courses, accepted by industry at the value of thousands of Rands, a critical consideration for any employer when considering new draughtsman.
3. We utilise industry leading CAD/CAM/CAE software including Autodesk and Prokon ensuring that you are educated not only in theory but also the industry used CAD software.

AUTODESK REVIT PROKON Software Consultants

4. Get exposure to guest lecturers from relevant external companies and organizations both on campus and online.
5. Job placement assistance through our industry network and online recruitment portal.
6. 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.

Admission Requirements

- Grade 12 with full Mathematics OR
- 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

Mode of Delivery

Full Time / Part Time / Online

What you get

This qualification is designed to provide the student with multiple certificates and qualifications, both locally and internationally recognised by industry for maximum employability.
On completion the student will earn:

- **National Diploma:** Structural Steel Detailing, NQF Level 5, SAQA ID: 48636, 257 Credits
- **International Certificates:** AutoCAD, Autodesk Revit Structure, Autodesk Advanced Steel, Prokon

Salaries & Skills

SALARIES (ANNUAL)

SA

Structural Engineer R246,926 - R607,852

Senior Structural Engineer R411,699 - R939,140

Structural Design Engineer R241,610 - R664,157

UK

Structural Engineer £23,035 - £43,639

Senior Structural Engineer £33,674 - £54,631

Structural Design Engineer £24,468 - £39,404

Curriculum

Modules Covered over 2 Years:

Module 1: Associate theory of structures, structural behaviour, mechanical properties and resistances of connectors and structural steelwork elements as well as regulations, codes, standards and drawing office practices with the preparation of detail drawings of connections and load bearing elements used in the fabrication and assembly of steel structures

Module 2: Collect, analyse and critically evaluate engineering requirements for the detailing of connections and load bearing elements to ensure safe and economical connections and load bearing elements for structural steelwork assemblies

Module 3: Organise and manage one's self and one's activities in the production of structural steelwork detail drawings to ensure the accurate measurement and placement of individual assemblies on drawing layouts in accordance with drawing office practice and specifications.

Module 4: Communicate effectively between structural steel drawing office personnel, workshop and site personnel as well as associated engineering personnel when preparing and issuing detail drawings.

Module 5: Communicate with clientele when compiling estimates and quotations for structural steelwork projects based on the standard system of measurement of building work for the steel construction industry thereby ensuring that accurate estimates are compiled and quotations produced from standard contract documentation are in accordance with best practice standards.

Module 6: Identify and solve problems when preparing details of structural steelwork connections and load bearing elements to ensure accurate calculations and workshop drawings are produced in accordance with engineer's requirements and contract specifications.

Module 7: Use science and technology associated with connection design and Draughting practice to produce detail drawings of structural steelwork assemblies and arrangement drawings.

Module 8: Use advanced 3D computer modelling science and technology to produce detail drawings and related data for the fabrication of commercial and industrial structural steel buildings.

Module 9: Integrate the processes and sequences associated with the preparation and production of structural steelwork detail drawings with the fabricating workshop and site planning functions and evaluate the combined impact of these processes on the time and cost of producing quality products within contract specifications and programme.

Module 10: Demonstrate an understanding of the world as a set of related systems by contributing to the implementation of enhanced quality control processes from the preparation of detail drawings to the fabrication stage and through to the on-site erection of structural steelwork assemblies including handover of completed steel structures.

Software Modules:
• Autodesk Revit Structural • Autodesk Advanced Steel • Prokon

For more information, please
contact a student advisor:
Gauteng: 011 262 5115 I Cape Town: 021 202 7890
info@aie.ac I www.aie.ac

AIE Academic Institute of **Excellence**

Career Options

Anyone that would like to pursue a career as the following:

- 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 Wi Fi myAcademy

- Free WIFI (10GB/Month, On Campus only).
- Autodesk student licenses valid for three years.
- Hardcopy of Green, Yellow, Red and Blue steel books used in the industry
- Stationary including, Notepad, Sketchpad, A4 & A3 Paper and Tracing Paper
- Electronic Study Guides
- Orientation kit including: Student Card, Welcome Letter, Getting Started Guide.
- Access to myAcademy student portal and student support team via phone, email and tickets.
- USB 32GB with all required software applications.

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

Regulatory Information

AIE (Academic Institute of Excellence) 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 for a period of three years.
This programme is accredited, and quality assured by the Construction SETA (CETA), accreditation number # ACC/17/07/00016