

Career Profile: Industrial Engineering Technician

Industrial engineering technicians usually work under the direction of technologists and get involved in the practical aspects of designing and implementing efficient production and operation systems in many different industries. Through diverse activities, technicians are expected to contribute to improved productivity, safety and profitability in any industry and business venture.

You could be involved in designing and implementing new systems and work processes and maintaining, evaluating and improving them. You could also investigate what can be done to improve existing systems. The work you do could include these activities:

- analyse time, motion, methods and speed of operation, production and maintenance tasks to establish standard production rate and improve efficiency
- prepare charts, graphs, and diagrams to illustrate workflow, routing, floor layouts, material handling, and machine utilization
- plan work assignments with the technologist taking into account worker performance, machine capacity, production schedules, and anticipated delays
- observe workers using equipment to monitor adherence to quality assurance standards
- evaluate data and write reports on workers' implementation of or deviation from existing standards
- recommend modifications to existing quality or production standards to achieve optimum quality within limits of equipment capability.

Education Requirements

National Senior Certificate (NSC)

For a career in industrial engineering students are advised to select English, Mathematics, and Physical Science and to add to this a selection from the designated subjects. These are subjects that are particularly suitable for tertiary study.

Students who study at an FET College must ensure that they take the appropriate subjects that will enable them to continue their studies at a University of Technology.

National Diploma / BTech

The National Diploma is a three year course which includes gaining practical experience under the guidance of a professional engineer. The diploma is a pre-requisite for admission to a Bachelor of Technology - BTech

Offered at:

- [Tshwane University of Technology](#)¹ (Faculty of Engineering and Built Environment)
- [University of Johannesburg](#)² (Department of Industrial Engineering Technology)
- [Vaal University of Technology](#)³ (Industrial Engineering)
- [University of South Africa](#)⁴ (College of Science, Engineering and Technology)

Specializations offered:

No specializations are indicated but there is some choice of modules or subjects.

[Tshwane University of Technology](#)

[Industrial Engineering brochure](#)⁵

[Faculty of Engineering and Built Environment Brochure](#)⁶

[University of Johannesburg](#)

[Faculty of Engineering and Built Environment Yearbook](#)⁷

[Vaal University of Technology](#)

[Overview of industrial engineering.](#)

[Courses on offer.](#)

[UNISA \(Florida campus\)](#)

[Industrial Engineering Brochure](#)⁸

Admission requirements

As admission requirements vary from one institution to another, find out what the specific requirements are by checking on the website and contacting the university if you have any queries.

¹ <http://www.fe.tut.ac.za/>

² <http://www.uj.ac.za/Default.aspx?alias=www.uj.ac.za/industech>

³ <http://www.vut.ac.za/metadot/index.pl?id=2371&isa=Category&op=show>

⁴ http://brochure.unisa.ac.za/brochure/showprev.aspx?d=l_4_26&f=p_BTENI

⁵ <http://www.fe.tut.ac.za/UploadedFiles/Brochures%202008/Industrial%20Web%202008.pdf>

⁶ <http://www.fe.tut.ac.za/CourseBrochures/1dc48693-597c-487b-b1c2-1c8cf58af2ba.pdf>

⁷ <http://www.uj.ac.za/Portals/0/FacultyYearbooks2009/Engineering%20Undergrad.pdf>

⁸ http://brochure.unisa.ac.za/brochure/showprev.aspx?d=l_4_23&f=p_NDEID

Registration as a professional industrial engineering technician

The purpose of professional registration is to ensure that only properly qualified people influence the health and safety of the population. Therefore, while registration is not compulsory, many tasks can only be performed by people registered at an appropriate level for the task.

A person who has obtained a National Diploma in Engineering is eligible for registration as Candidate Engineering Technician. After gaining at least 3 years of appropriate practical experience an industrial engineering technician may qualify as a Professional Engineering Technician under the auspices of the Engineering Council of South Africa.

Possible Employers

- Motor vehicle manufacturing industry
- The SA Transport Services
- Factories
- Mines
- [IsCOR](#)⁹
- [Sasol](#)¹⁰
- [CSIR](#)¹¹
- Aviation and marine companies
- Government departments

Find out more

Find out more about industrial engineering, bursaries and jobs:

- [South African Institute for Industrial Engineering](#)¹²
- [The South African Association of Consulting Engineers](#)¹³ will enable you to get some idea of how engineering consultants are organised.
- The [South African job board and recruitment portal](#)¹⁴ for the South African engineering industry.

⁹ <http://www.iscor.co.za/>

¹⁰ <http://www.sasol.co.za/>

¹¹ <http://www.csir.co.za/>

¹² <http://www.saiie.co.za/>

¹³ <http://www.saace.co.za/>

¹⁴ <http://www.engineeringcareers.co.za/>

Are you suited to this career?

This quick quiz can help you to identify whether you are suited for this occupation. The questions are based on interests, characteristics and values typical of people who work as engineers.

Quiz	Yes	No
Are you good at Mathematics and Science?		
Are you curious and creative?		
Do you enjoy practical tasks?		
Do you approach tasks in an orderly and systematic way?		
Are you an accurate observer?		
Are you able to work well with other people?		
Are you able to adapt to new situations?		
Are you able to combine a number of different perspectives?		
Can you communicate clearly both orally and in writing?		
Are you interested in a career that helps you to become involved in improving the way people work		

If you have mainly yes answers it may be an indication that this is an occupation to consider.