

A CAREER IN ELECTRICAL & INFORMATION ENGINEERING



Are you...

...a creative person, good at Maths and Science with an interest in applying your skills to areas such as

- Systems & Control
- Information Technology
- Cellular Technology
- Artificial Intelligence
- E-Business Technology
- Instrumentation
- Energy Supply & Management
- Power Generation & Transmission
- Power Utilisation
- Networking
- Computer Vision
- Automation
- Electronics
- Medical Instrumentation

And many more?

Then a career in Electrical and Information Engineering (EIE) is for you!

What is an Engineer?

Engineers conceive, create, plan and design major works, products and processes for useful purposes. Engineering is based on mathematical and scientific knowledge and takes into account social and economic issues.

What is an Electrical Engineer?

Electrical Engineers apply the principles of electricity and magnetism to the design of systems and devices relating to electronic hardware, energy transmission and power utilisation. They also oversee the construction and maintenance of these systems.

What is an Information Engineer?

Information engineers are responsible for developing and maintaining high level systems in which computer software applications, networking and information processing are the essential components.

Engineering is a creative and fulfilling career for men and women!

Electrical Engineering traces its origins to the first applications in the 19th Century of the discoveries of electricity and magnetism to perform useful functions. The Electric Telegraph was the earliest use of electricity and magnetism to send information over long distances. Electrical Energy was later used for lighting and motive power. The first digital computer was developed by researchers in a School of Electrical Engineering. Today Electrical Engineering continues to concern itself with both

- the generation, transmission, storage and utilisation of electrical energy, as well as
- the processing, storage and transmission of information.

Electrical and Information Engineering Today

The scope of Electrical Engineering has expanded into several important disciplines which you can see below. The broad field of Electrical Engineering still retains its two original threads, namely those of Electrical energy and Information. Both these elements are supported by a common set of Scientific and Engineering fundamentals.

Electrical Engineering		Information Engineering
Power Supply	Automation and Control	Information Processing
Power Utilisation	Cellular Technology	Computer Systems
Energy Management	Measurement	Software Design and Development
Electromagnetics	Instrumentation	Data Networking
High Voltage	Electronics	Telecommunication Systems
Machines		Artificial Intelligence

For a more detailed account of the various sub disciplines into which EIE has expanded, and the relationship between these, please visit our web site at www.eie.wits.ac.za

Careers

Wits EIE graduates are in demand both inside and outside the conventional engineering sector.

Within the mainstream Electrical Engineering sector a significant number of EIE graduates have set up their own businesses or work in hi-tech companies producing anything from specialised electronic equipment (such as biomedical devices) and advanced control systems (eg those found in the aircraft and nuclear industries) to conventional electrical and power engineering systems, including those used in renewable energy processes.

Outside the sector our graduates are working in IT departments for major banks, insurance industries, retail chains, as well as medical research institutes. As companies in these sectors begin to deal with the complexities encountered in modern IT and e-commerce, they need to employ people with both IT skills and the range of problem solving, systems analysis and other skills found in Wits EIE graduates.

Engineers play a vital role in the field of Development. Many government programmes concerned with the delivery of education, health and other services to urban and rural communities rely heavily on the expertise and inputs of EIEs in order to accomplish this objective.



Wits gives you the edge.

