Categories of Electrical/Electronic Engineering

Electrical/Electronic engineering can be divided into three categories:

Electronics and telecommunications, focusing on semi-conductor devices, computer hardware and software, radio and television, microwave and radar systems, antennas, telephone switching systems, digital communications, fibre optics, micro electronics, and several other related fields;

Measurements, computation, control and automation, which encompasses the areas of instrumentation, computer hardware and software, micro-processors, control systems and robotics;

Power electrical engineering, where the emphasis is on the generation, transmission and utilisation of electrical energy and all its forms.

These categories are closely linked and most electrical and electronic engineers will become involved in all three to some extent in the course of their education and careers. The training and experience gained in electrical/electronic engineering foster entrepreneurial qualities which equip a person to start a small business. In addition to providing great job satisfaction and high rewards, small businesses create job opportunities and are a benchmark of a healthy economy.

Electrical/Electronic Engineering Education

- **Professional Engineer:** Education- a four year university degree followed by a practical period of three years to achieve professional status. Responsibilities - conceptual planning, design and the development of innovative technology.
- **Professional Technologist (Engineering):** Education five years of technikon study, of which two years are devoted to practical training, to qualify for Masters Diploma in Technology. Professional status is achieved in three years in the field. Responsibilities - application and improvement of advanced technology in the industrial environment.
- **Registered Engineering Technician:** Education - three years technikon diploma course, of which 50% comprises of practical training, followed by two years of experience to achieve professional status. Responsibilities - building and maintaining high technology electrical and electronic equipment and providing electrical services.
- **Artisan:** Education requires registration as an apprentice, practical training and theoretical education at a technical college. Responsibilities - assembly, installation and maintenance of electrical and electronic equipment as well as the installation of electrical services.

The Engineering Professions Association of Namibia
(EPA) P O Box 21885 Windhoek Namibia

The information in this brochure was obtained from the SAIEE

What does a career mean to you?

Are you concerned about the future prosperity of your country and the well-being of all its' people?

Do the challenges of technological innovation leadership excite you?

Would you like to see your environment saved from the ravages of pollution and maximum benefit derived from our rich variety of natural resources?

Translating Challenges into opportunities

Like every young person about to embark on a career, you have dreams and aspirations and are setting yourself goals for personal achievement. You may wish to make your mark in the information and computer technology revolution which is already changing the face of communication;

Or play an active role in the development of software and hardware to make wheels of industry turn more efficiently;

You may aspire to taking a lead in the technological effort to obtain energy from renewable sources;

Or in the development of power supply for rural communities, both to improve the quality of life and decrease the destruction of natural resources;

You may dream of the prospect of creating power links throughout Africa for the benefit of all;

Or working towards cities with pollution free transport systems;

You may be surprised to discover.... that there is a career path which can satisfy the need for social and environmental awareness while at the same time improving the quality of life for all and helping you to realise some of your personal dreams. It is career stimulated by technolgical innovation.

If the challenge appeals to you and if you have drive, energy and a creative mind, ELECTRICAL and ELECTRONIC ENGINEERING could be your natural career choice.

Without the work of electrical and electronic engineers, man would not have walked on the moon. the use of space satellites for communication would be unheard of. Southern Africa would not have a deep level mining industry and we could not have exploited a fraction of our mineral wealth. The creation of Sasol, the world's only viable oil from coal operation, would have been a mere pipe-dream. Africa would not have lead the world in precision electronic distance measurement nor in lightning protection technology for power and electronic systems.

Electrical & Electronic Engineering

Electrical /Electronic engineering is a special career which demands special qualities. You should have a keen interest in mathematics and science and you should have studied scientific subjects at high school. An enquiring mind , perseverance and an ability to work with other people are the personal attributes which will help you to succeed both in your training and in achiev-

Rewards & Job Satisfaction

The work of electrical and electronic engineers is extremely rewarding because the results of what they do are crucial to the benefit and progress of mankind in every way - at home, at work, in almost every aspect of daily life.

The variety of this career can reap immense personal rewards. You can choose to become part of a multinational organisation, or to join a small specialist company, or you can work alone.

You may wish to undertake fundamental research to broaden the horizons of industry; or you may prefer to explore improved avenues of design or derive practical satisfaction from involvement in the manufacturing sector.

The full electrical/electronic team is made up of a number of people with different skills and expertise, each playing a vital role in ensuring that the tasks in hand are executed competently.

Engineering provides a wide range of alternatives enabling you to use your abilities to the full