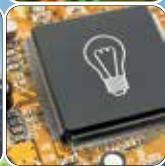UNIVERSITY OF KWAZULU-NATAL ™

INYUVESI YAKWAZULU-NATALI

SCHOOL OF ENGINEERING

Computer Engineering

we power we connect

The Computer Engineering curriculum is designed to prepare students for a career in the fast growing field of computer engineering, where computer systems are applied to the management, control and dissemination of information and the control and management of systems of all forms. The programme is based heavily on the Electronic Engineering programme with different specialisation subjects being offered in the 2nd, 3rd and 4th years of study. This approach provides a broad base of engineering concepts that is essential to the application of computing systems in problem solving. The specialisation starts in 2nd year with a course on Data Structures and Algorithms, which complements the two standard Computer Methods programming courses. In the third year of study, further specialist courses in Software Engineering, Advanced Programming and Discrete Mathematics are taken along with two Computer Engineering Design courses. Students also attend a course on Engineering Management and Labour Practices in preparation for industry employment and an Environmental Engineering course to ensure sensitivity to this important aspect of any engineering activity.

The 4th year of study is where most specialisation takes place with prescribed courses on Embedded Systems, Operating Systems, Advanced Computer Engineering and Real Time Computing being taken plus three optional courses taken from subjects such as E-Commerce Systems, Security and Encryption, Internet Engineering, Artificial Intelligence and Image Processing.

Practical Experience

For the integration of the theory with the practice of engineering to take place, the student is required to complete a minimum period of 13 weeks of practical vacation work in industry. This is normally undertaken during the long vacations of second and third years. After each such period of training

the student is required to submit a formal report on the work completed. In addition, second year students are required to attend a one-week general workshop training course held in the Electrical and Electronic Engineering building during the July/August vacation.

Career Opportunities

With the increasing demand for electricity and the tremendous growth of the information, manufacturing and telecommunications industries there are many challenging and exciting jobs awaiting each graduating Computer Engineer.

Profession Registration

The Bachelor of Science degree in Engineering (Computer Engineering) is recognised as the qualifying degree for registration as a professional engineer in South Africa under the Professional Engineers Act 1969. A period of at least three years of relevant postgraduate experience is required before full registration as a Professional Engineer. Professional registration is currently a requirement, in South Africa, for those wishing to become consulting engineers, whether in the private or public sectors.

Subject Requirements

- NSC degree pass
- Mathematics and Physical Science Level 5 (65%)
- English and Life Orientation Level 4 (50%)
- 3 other subjects with at least 2 from the designated list

Application Requirements

The discipline of Computer Engineering accepts only a limited number of students into first year on the Durban campus. A smaller additional number are accepted to do first year in Pietermaritzburg but have to transfer to Durban from second year onwards.

Prospective students are invited to visit Computer Engineering to discuss their future careers with members of staff, attend a University Open Day, or phone the contacts listed below.

The actual application is done through the Central Applications Office (CAO). Apply to UKZN online at: www.cao.ac.za. Contact the CAO on: 031 268 4444