

THE SANDWICH SYSTEM

Since its founding in 1926, the School of Mines gradually evolved, especially with a move away from part-time classes at a number of widely separated centres to fully centralised full-time sandwich courses. This system initiated study periods alternated with experiential learning in the workplace. To keep abreast of technological and scientific developments, course content changed and new courses were introduced, with significant revisions taking place in 1949, 1963, 1969 and 1981.

During the early 1950s, it was realised that afternoon and evening classes and the one-day-a-week release of apprentices were inadequate for a thorough education. In 1955, on a tour of technical colleges and universities in Britain, Harry Aspinall, Head of the Electrical Engineering Department, was impressed by the training of technicians that involved alternating full-time periods working in an industry with studying at a college. The periods of six

months each appeared adequate in ensuring effective integration of college and industrial training. After Aspinall's report, the College instituted:

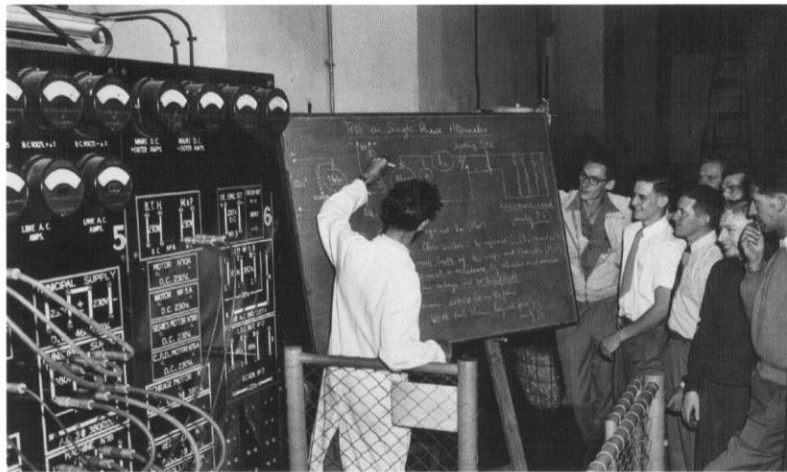
- a three-year course with experiential learning in the second year;
- a minimum entrance qualification of NTC II;
- a common first year for Electrical and Mechanical Engineering students;
- a fourth-year course for students with exceptional ability so that they could acquire professional engineering status;
- facilities for part-time students.

The scheme proved to be the general model for courses for a number of years.

In the early 1960s, the majority of Engineering students, mostly more mature men who were already employed and attended classes at the Eloff Street headquarters, could study on a “block release” system – a version of the so-called “sandwich system” that was first implemented in 1965, with the training of 14 Metallurgy students ranging from 22 to 54 years in age. This system usually comprised full-time attendance for three sessions of 10 weeks each during one year. These courses, offering three to four subjects each, were designed mainly for apprentices or recently qualified journeymen.

These sandwich courses marked the beginning of a move toward centralised training in the theory component of all the courses, which were offered from 1966 onwards. For example, on request from the Chamber of Mines, further sandwich courses for assayers and ventilation officials were offered. In the field of Light Current Electricity, the sandwich courses for radio and electronics technicians followed the pattern of heavy industry, consisting of a one-on, one-off semester system of attendance. However, the radio technicians’ course was redesigned to include two years of full-time attendance at the College, followed by two years full-time with the employer. In 1965, a new course

was also designed for “space technicians” which would train technicians to man the new facilities at NASA’s earth satellite and deep-space tracking station built in Hartebeeshoek, near Krugersdorp. It also heralded the end of the era in which the bulk of the lecturing was done mostly by a host of part-time lecturers. Over time, they were increasingly replaced by growing numbers of full-time lecturers.



A practical demonstration at WTC, 1955 (Courtesy of MuseumAfrica)