

Engineering Technology Education under the new Higher Education Qualification Framework

“It seems that no residential University of Technology is planning to provide for technician education” was an opinion expressed at a recent meeting of the Technology Programme Accreditation Committee at the Engineering Council of South Africa (ECSA). This seems to be the prevalent thinking in the Universities of Technology (UoTs), or former Technikons. They seem to be planning to provide only the new three-year Bachelor of Engineering Technology (BET) degree, which will be the new benchmark qualification for professional engineering technologists.

How did we arrive at this juncture? Technology engineering qualifications, contrary to the traditional four-year engineering degrees, have suffered major overhauls every ten to fifteen years since the late fifties/early sixties when the T4 Diploma was established to replace the ATC II. This culminated in the present National Diploma and the BTech degree. The fact that, for the first time, technology professionals had a degree as benchmark qualification was a huge success, as well as a thorn in the flesh of many.

In 2007 the Department of Education announced their vision for future tertiary qualifications in the Higher Education Qualification Framework (HEQF). This framework laid down principles and guidelines wherein all tertiary institutions would develop their qualifications. It did not allow for a BTech degree at all, and, if a UoT wanted to offer a diploma for engineering technicians, that university would have to guarantee the student a placement for his or her year of work-integrated learning. ECSA (for the engineering profession) and many other stakeholders offered comment and sent delegations to the Department of Higher Education, but the BTech degree was not to be revived.

Meanwhile ECSA’s Engineering Standards Generating Body (ESGB) was hard at work generating suitable benchmark qualifications for engineering technology professionals, which would be in alignment with the HEQF vision. Since no UoT could guarantee work-integrated learning placements for students, due to the cyclical nature of the South African economy, the only workable qualifications provided for by the HEQF for technicians would have been the consecutive Higher and Advanced Certificates, each a one-year 120-credit qualification, with industry making its own provision for introducing the students into the work environment. For engineering technologists, the most suitable qualification would be a three-year Bachelor’s degree in Engineering Technology (BET). At a meeting with officials from the Department of Higher Education and Training (DoHET), it was clear that this proposal was not well received, until we explained that we did not foresee any work-integrated learning component in this qualification. It would be a purely academic three-year degree. The HEQF therefore placed the UoTs into a position where no work-integrated learning would be provided for as an integrated part of the technology qualifications. ECSA seems to consider increasing the minimum three-

year candidate phase for technicians and technologists to four years to compensate for this loss.

The DoHET revised the HEQF last year, and the latest guidelines provide for a two-year 240-credit Diploma, suitable for the education of engineering technicians, and a three-year 360-credit BET for engineering technologists. The present consecutive model with the BTech degree as a top-up of the Diploma is, however, not acceptable to the DoHET

The Engineering Faculty of the Tshwane University of Technology did a controlled study, approaching the engineering industry represented through its various Advisory Committees, to determine what qualification industry favoured, and the overwhelming response was for the three-year BET. It remains to be seen what the final decision of the other UoTs will be, but none of these institutions has the capacity to provide two parallel qualifications for technicians and technologists. Additional laboratory space, lecture halls and lecturing staff would be required to provide two parallel qualifications.

It seems therefore that the unintended consequence of the demise of the BTech degree will be a crisis for the education of engineering technicians. This begs the question as to how our future engineering technicians will be educated. Will this be left to the FET colleges?

Engineering technology education is indeed at a crossroads again. Quo Vadis?

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