Stakeholders discuss recognition of applied degree graduates

by Connie Mucklestone

Postsecondary institutions offering engineering/technology-based applied degree programs must work together with licensing and certification bodies to ensure appropriate recognition of graduates. This was one of the conclusions of a September 16, 2002 stakeholder meeting that brought together representatives of the Postsecondary Education Quality Assessment Board (PEQAB), community colleges, Professional Engineers Ontario (PEO), the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) and the Canadian Engineering Accreditation Board (CEAB). The PEO/OACETT Joint Management Board sponsored the session.

Under the *Post-Secondary Education Choice and Excellence Act* of December 2001, a range of postsecondary institutions, including community colleges, can now grant degrees for programs that have been assessed and approved by PEQAB, which was also created by the Act. Under a pilot project for the colleges, PEQAB is approving up to 24 applied degree programs for an initial five-year period (see *Engineering Dimensions*, March/April 2002, p. 11, and September/October 2002, p. 33).

To be approved, the proposed programs must balance theory and practice, with 70 per cent of the courses in the main field of study, at least one paid work term, and 20 per cent of courses outside the main field. They must also meet a demonstrable economic need and be substantially different from any current diploma/degree programs.

Holders of applied degrees will be expected to understand the core principles in their field and be able to apply underlying concepts and principles outside the context in which they were first studied. They will also be expected to know the limits of their knowledge and how this influences analyses and interpretations, and be prepared for lifelong learning in their field.

"These degrees are not meant to be dead-ends. They are meant to be building blocks," said Dr. Donald Baker, director of the PEQAB secretariat. "They are not meant to be terminal credentials, but are meant to enable graduates to be effective practitioners in their fields." He said PEQAB believes graduates of the applied degree programs will be "among the educated elite of Canada," and expects that in many instances universities will decide to recognize the degrees as qualification for postgraduate studies.

Baker said that pilot programs will require a positive independent review within five years for a renewal of PEQAB's initial consent, and must have a process in place for ongoing evaluation. He said accreditation of programs for professional licensing purposes might, but will not necessarily, fulfill the independent review requirement.

Deborah Wolfe, P.Eng., director, educational affairs, Canadian Council of Professional Engineers, described the criteria CEAB uses to accredit engineering degree programs as meeting the academic requirements for P.Eng. licensing. She said that for CEAB accreditation, the narrow focus of the proposed applied degree programs might be less of an issue than their likely deficiency in basic sciences and mathematics. CEAB requires over 20 per cent of a program's "accreditation units" to be from the basic science and math areas. She said CEAB will work with institutions to assess a proposed program's curriculum, and can also conduct a trial accreditation visit in a new program's third year to prepare it for its actual accreditation visit.

Both PEQAB's Baker and college representatives urged CEAB to consider incorporating assessment of program outcomes into its processes, since this is the measure used by the colleges, PEQAB and accreditation bodies in other jurisdictions.

In her description of the requirements for certification as an engineering or applied science technologist, OACETT Executive Director Angela Shama, P.Eng., C.E.T., also noted that while OACETT has endorsed some of the proposed programs as meeting its requirements, it will have to look closely at others "to see if they meet the hard-core, three-year technology content requirement." Of most importance, however, she said, is for the colleges, working with PEO and OACETT, "to identify for graduates where they will fit within the engineering team. Students will enter these programs with expectations, and the colleges need to understand what these expectations are."

At least one of the college representatives said that if her college were to consider offering a new program for which licensing or certification of graduates might be appropriate, it would invite a representative of the relevant certifying or licensing body to sit on the program advisory committee. Noting that the learning outcomes of three-year technology programs and applied degree programs are designed to be substantially different, several college representatives said that their institutions will likely continue to offer both streams so students will have a choice.

Other outcomes of the meeting were outlined in a letter sent to all participants:

- The colleges were encouraged to identify for students the certifications or licences for which graduates would be eligible, and to work with the regulatory and/or accrediting bodies when developing programs for which accreditation might be appropriate. They were also challenged to understand clearly the certification/licensing expectations of potential students so that communications to students address these expectations.
- Accrediting bodies, such as CEAB, were encouraged to remain relevant and flexible in their procedures, to incorporate outcome-based assessments as appropriate and to encompass new program areas.
- All stakeholders were challenged to work together so that graduates can see clear paths of career progression with defined benchmarks of achievement.