

Engineering Accreditation in Canada: Transition to Outcomes Based Accreditation

Gérard Lachiver, FIC, ing.,
Malcolm J. Reeves, FEC, P.Eng.
Wayne MacQuarrie, FEC, P.Eng.,
Executive Committee: Canadian Engineering Accreditation Board
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Today's Presentation

- What is accreditation?
 - Status
- The Road to Outcomes Assessment in Canada
 - Consultation process
 - Transition to outcomes assessment
 - Outcomes assessment

- Next Steps

What is Accreditation?

- Identifies programs whose graduates are prepared to enter the profession of engineering
- Undertaken only upon invitation
- Applies to undergraduate engineering programs (bachelor's degree) only
- Programs are accredited, not departments or faculties

Accreditation: *Status*

278 accredited programs (as of June 30, 2014)

- 43 post-secondary institutions
- Over 70 fields of study
- Approximately 55,000 students
- Approximately 10,500 graduates per year

The Road to Outcomes Assessment in Canada

- ABET established EC 2000 in the mid 1990's
- Accreditation Board work began in 2002
- Major workshop in September 2006
- Formal consultation with Constituent Members, Deans and others (Spring – Fall 2007)
- Approval by Engineers Canada (May 2008)
- Publication of new Criteria (Fall 2008)

Transition to outcomes assessment

Activity	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CEAB studies outcomes based assessment in the ABET system	█												
CEAB representatives observe several ABET visits in 2003/2004	█	█											
Workshop: CEAB milestones, other accreditation systems, draft revised criteria			█										
Workshop for further progress on the amended criteria				█									
Proposed revisions approved for consultation by CEAB					█								
Formal consultation with stakeholders					█								
Final revisions approved by CEAB, then Engineers Canada. Publication						█							
Transition period							█	█	█	█	█	█	█
Workshops on outcomes assessment criteria for programs and volunteers							█	█	█	█	█	█	█
Decisions taken in respect of "new" criteria													█



What is “Outcomes Assessment”?

- Inputs: Measure of curriculum content and quality. Measured by “Accreditation Units” (AU)
- Outcomes: Statements that describe what students are expected to know and be able to do by the time of graduation (“Graduate Attributes”)

“Outcome assessment” is only part of the process

- Any practical accreditation system must examine outcomes, inputs, processes, quality of faculty and facilities
- Some outcomes-based assessments have existed for a long time in CEAB practice (e.g. in design)
- All Washington Accord signatories have both input measures and outcomes assessments

Graduate Attribute Criteria

3.1 *The institutions must demonstrate that the graduates of a program possess the attributes under the following headings. The attributes will be interpreted in the context of candidates at the time of graduation. It is recognized that graduates will continue to build on the foundations that their engineering education has provided.*

List of Graduate Attributes

1. Knowledge Base
2. Problem Analysis
3. Investigation
4. Design
5. Use of Engineering Tools
6. Individual and Team Work
7. Communication
8. Professionalism
9. Impact on Society and the Environment
10. Ethics and Equity
11. Economics and Project Management
12. Life-Long Learning

Continual Improvement Loop

3.2 Engineering programs are expected to continually improve. There must be processes in place that demonstrate that program outcomes are being assessed in the context of these attributes, and that the results are applied to the further development of the program.

Next Steps for Outcomes Assessment

- Accreditation Board will make decisions about compliance with the outcomes criteria starting in June 2015. Compliance with input criteria (e.g.: curriculum content) remains a requirement
- Workshop in September 2015 to discuss lessons learned and future improvements to the process

Questions?



Thank you

For more information:
contact@engineerscanada.ca | 613.232.2474
engineerscanada.ca

